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THE  
ANGLER AND HIS FRIEND.





THE  
ANGLER AND HIS FRIEND;

OR,

PISCATORY COLLOQUIES

AND

FISHING EXCURSIONS;

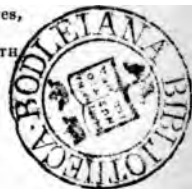
BY

JOHN DAVY, M. D., F. R. S., ETC.

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“ And O, ye fountains, meadows, hills, and groves,  
Think not of any severing of our loves.”

WORDSWORTH



LONDON:  
LONGMAN, BROWN, GREEN, AND LONGMANS.  
1855.

260. c. 180.

“ REMEMBER that the wit and invention of mankind were bestowed for other purposes than to *deceive silly fish* ; and that, however delightful angling may be made to appear, it ceases to be innocent when used otherwise than a mere recreation.”—IZAAK WALTON.





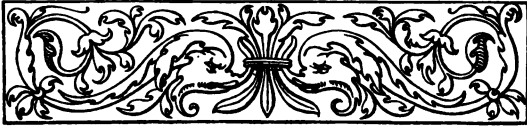


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## PREFATORY NOTE

FROM THE ANGLER TO HIS FRIEND.

DEAR AMICUS,



OW various are the circumstances which may occasion the production of a book! When we last fished together, how little did I think that from an angler, I should become an Author on angling. We talked of more serious labours, —war then looming in the distance,—and in our country's cause; and looked forward with hope to earning, perhaps, a little distinction, and to doing, perhaps, a little service meriting mark: but it has not pleased the higher authorities to give us the opportunity. So we are turned back on our philosophy and angling to expend our energies: these at least—angling

and philosophy—we are sure will not fail us, or prove ungrateful. And, with this confidence, reminding you of the words of the old ditty, equally applicable to you and my book, how

“ — Inward love breeds outward talk,”

and expressing the hope, that what has amused me in my ignoble ease in the writing, may amuse you in your happy leisure in the reading.

I am,

Your loving Friend,

PISCATOR.

Lesketh How, Ambleside.

*December, 1854.*



THE  
ANGLER AND HIS FRIEND.

COLLOQUY I.

*Introductory and Commendatory.*

AMICUS.



YOU have kindly offered to initiate me, if not into the mysteries, at least into some of the elements of your favourite exercise and art, fly-fishing and fly-making; but, first I could wish to be assured that the one is worthy of being followed and the other of being practised; for at first view I have difficulty in believing either; the fishing part seems to be so monotonous and dull, and the making the bait so frivolous and at the same time so troublesome.

PISCATOR. I am not surprised to hear you speak thus, for surely such is the aspect of both at the first glance; but, I think I can honestly declare, only at first glance; and that if duly considered in all their bearings, the exercise must be allowed to have its charms, and of no ordinary kind, as a recreation, and the art of fly-making, its uses and pleasures, no wise contemptible or unworthy, I will not say of the country gentleman merely who has leisure at command, but even of the literary man, the man of science, and the occupied man of business.

AMICUS. You excite my curiosity; but I fear you promise too much. I know the gentle craft has had its eulogists, and many powerful ones; but, were there truth in their praises, how is it that it is not universally followed?

PISCATOR. What sport is more followed? How early is the taste for it shown in the child! See that pretty group of little ones, boys and girls, with the same zest and joyous earnestness catching minnows. What a charming picture! How enduring is it even in old age, and even in enfeebled health and more than ordinarily impaired powers: the aged infirm Angler, painted with spectacles on nose and crutch by his side,

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is hardly a caricature. We have heard of an Angler who had become blind, still resorting to his old river-side haunts with his fly-rod accompanied by his daughter, substituting her eyes for his own, and having a pleasure in the sport, enhanced perhaps even by the difficulty. There seems to be an almost instinctive propensity to it,—strongly displayed in the savage, persistent even in civilized man, no longer, as in the instance of the savage, depending on it as a means of support. If not universally followed,—and fortunate it is that it is not,—this is not inexplicable or inconsistent with the innate taste for it. What, I would ask, is universally followed? Nothing but what is essential to the existence of the individual, such as the simplest animal wants, eating and drinking. No art, no occupation, no amusement is. There may be an innate taste for one or all, as there is an innate love of virtue and beauty, and a contrary feeling towards vice and deformity, but varying in degree in different natures, and ripening or wasting and aborting according to the culture received or neglected. If you have in reality any doubts concerning the widely spread love of angling, I think you will cease to entertain

them if you reflect on all that has been written on the subject, and on all that is done, the journeys made, the expenses incurred, to indulge in its exercise. What books are more popular than those on angling? What book has passed through more editions than "The Contemplative Man's Recreation?" Izaak Walton, in our English literature, is second only to Shakespeare and Milton, and probably is more universally read. What an idea does that book, published now two centuries ago, give of the culture which the art has received in this country, hardly inferior to the most prized of the useful arts. My copy of it, which I purchased when a student, had previously passed through many hands and in distant countries, Scotland, Prince of Wales' Island, Bombay, and since it has been in my possession, now more than forty years, it has accompanied me in all my wanderings, and has never been more pleasing than when remote from home and the charming scenes so well described in it.

AMICUS. Do not your remarks apply partially, and to England and Englishmen rather than to the world at large and the natives of other countries?



PISCATOR. England is specially favourable for angling; its many rivers and lakes abounding, or once abounding, in the beautiful trout and its congeners; its temperate climate equally suitable to fish of cool waters, such as all the Salmonidæ are, and to the active exercise which the use of the fly-rod requires. These circumstances may account for the sport being so much an English one,—I should rather say a British and Irish, as it is no less followed in the sister countries under the like advantageous circumstances. But even in regions no wise like our own favourable, we may witness traces of the same taste. Thus in the Ionian Islands, where there are no streams suitable to the Angler, the natives of one of them, those of Paxo, practise an aerial kind of angling, not indeed for fish, but for birds. Sitting on the edge of a lofty cliff, with all the appliances of the art,—rod, line, and baited hook,—a natural fly the bait,—they make their casts, and effect the capture of many a deluded swallow. In the neighbourhood of Ravenna, in the marshes of La Classe, where frogs abound, the natives, in want of nobler sport, seek amusement in taking these reptiles, using, we are told, a portion of the frog for a

lure, and placing it so as to make it act the part of a hook. In the West Indies there is a more exciting kind practised; in Barbados, for the shark; and at Trinidad, in the Gulf of Paria, for the whale. Both these are fierce struggles, the one carried on, the performer standing on a rock or cliff washed by deep water; the other in boats. Neither of these kinds of sport have I myself witnessed, but I have been where they were practised, and I have heard accounts of them from those who engaged in them, narrated with an animation strongly betokening the zest with which they were followed.

AMICUS. These perhaps may be considered rather exceptional cases; and tending rather to prove the predatory disposition of man, allying him with the beast of prey, than an instinct specially directing to the cultivation of angling as an art. To make good your argument, that there is such an instinctive feeling, ought not man to exhibit it wherever the circumstances favour?

PISCATOR. This, I think, is pretty generally the case. I remember, long ago, in descending the Mahavilla-ganga, the most considerable river in Ceylon, being taught by a native boat-

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man how to angle using a nut, the fruit of a tree growing on the banks of the stream, for a bait, casting it like a fly, and taking therewith a large species of mullet. I recollect, too, how in a voyage to the West Indies, I was invited to pay a fellow passenger a visit in St. Vincent, with the promise of good fly-fishing in more than one of the streams of that island, the resort of a migratory fish, also, I believe, a species of mullet, which rose freely at and took the artificial fly. In the United States, in Canada and Nova Scotia, where in most of the northern rivers and lakes fish abound, trout, salmon and grayling,—game fish, as they are there called,—the love of angling is almost as strongly shown as in our own country; though the climate is no wise so favourable, and where too generally there is a great drawback to enjoyment from the torment of insects. To have an idea of the zeal with which the art is followed in these regions, I cannot do better than refer you to Frank Forester's "Field and River Sports," in three handsome volumes, published recently at New York. You may object, that on the Continent generally in Europe, fly-fishing, or even angling in its ordinary sense, is almost if not quite unknown. I

reply, that in most continental countries the circumstances, whether of climate or water, are inauspicious for following the sport, and even more for enjoying it. In the south, in all the streams which flow into the Mediterranean, the trout and its congeners are rarely found; and, in the north, as in Sweden and Norway, in both which countries the Salmonidæ are more or less abundant, there are peculiarities of a disheartening kind, which have even checked the zeal of some of our most enthusiastic anglers, who have gone there in sanguine expectations of performing great deeds. One is the uncertainty of the seasons, and in connection that of the rivers, liable to be excessively flooded and rendered unfit by the fall of rain in the mountains in summer, and the melting of the snows in the uplands. Another is the magnitude of the rivers, their many falls, and the difficulty, in consequence, of fishing them. But even in Norway, fly-fishing is rudely practised amongst the natives; as it is also in other parts of Europe in which the trout is abundant and worth capturing; for instance, in the Tyrol and in northern Greece, the ancient Macedonia, where we are told that, even in ancient times, angling with an

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artificial fly was practised,\* as we are assured by modern travellers it still is.

AMICUS. What you say is plausible. Granted, and I am disposed to do no more, that angling, that fly-fishing, angling in its most refined form, is little more than the exhibition of that propensity, akin, as before said, to what we witness in the beast of prey, on the exercise of which it depends for its subsistence, and therefore may be considered to belong to the species; I should like to hear what you have to state in favour of it as fitted for the recreation of civilized man, as deserving of being practised by him. What you have already mentioned might with as much force be adduced in favour of some occupations which you would hardly recommend to be followed, except on the ground of necessity, such as that of the butcher, the arctic whaler, the deep sea fisher.

PISCATOR. Much on this head may be said in commendation of the art without exaggeration, into which one is too apt to fall when describing what we love, whatever it may be, whether an object of the affections, a calling, or a sport.

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\* See *Ælian*, xv. 1.

The first recommendation of angling is, I think, the exercise it affords, in which in wielding the rod and casting the flies, and in going from pool to pool, almost every muscle of the body is called into action, and with such variety, and always with such moderation as to occasion no severe strain on any limb, or any exhausting effect on any set of muscles. See the Fly-fisher even advanced in age; in his lithe erect frame, what a contrast is visible, comparing him with the man of the desk, or the studious and indolent man. The degree of exertion required is never, excepting in salmon fishing, excessive, so as to be quite compatible with its being "the contemplative man's recreation:" not like hunting, which is too violent exertion, at least in the sport itself, to admit of any quiet reflective train of thought; or shooting, which is only in a degree removed from the latter sport in its exclusive tendency as regards thoughtful musing. The season, too, of angling, and the weather best fitted for it, are equally favourable for health and enjoyment. It commences when the inclemencies of winter are past, and is at its height in the delightful month of May; falls off during the hot months of summer, and improves

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as the weather cools at the end of the dog days, and as autumn advances, the most obvious regulating circumstance being the fly on the water,—either a total deficiency or an excessive abundance of this food being almost equally unfavourable. The state, moreover, of the atmosphere most suitable is that in which one is most tempted to be in the open air; when there is partial sunshine and cloud, “a mild but not too fierce a ray,”—when there is a wind refreshing, and creating a ripple, the true Zephyrus, a wind from the west or north-west, of moderate temperature; in brief, a condition of air which is most common in showery weather, or after rain, when the streams are in their best condition, neither too high nor too low, and the water is neither in its most transparent state, as during a time of drought, or too turbid, as when swollen during or presently after heavy rain. Hear what the author of “*Salmonia*” says of the enjoyments of the Angler, in connection with the season and the incident charms attending the sport,—a high authority, describing only what he knew, not imagining, after the manner of romance. “How delightful,” he says, “in the early spring, after the dull and tedious time

of winter, when the frosts disappear and the sunshine warms the earth and waters, to wander forth by some clear stream, to see the leaf bursting from the purple bud, to scent the odours of the bank perfumed by the violet, and enamelled, as it were, with the primrose and daisy, to wander upon the fresh turf below the shade of trees whose bright blossoms are filled with the music of the bee; and on the surface of the waters to view the gaudy flies sparkling like animated gems in the sunbeams, whilst the bright and beautiful trout is watching them from below; to hear the twittering of the water-birds, who, alarmed at your approach, rapidly hide themselves beneath the flowers and leaves of the water-lily; and, as the season advances, to find all these objects changed for others of the same kind, but better and brighter, till the swallow and the trout contend, as it were, for the gaudy May-fly, and till, in pursuing your amusement in the calm and balmy evening, you are serenaded by the songs of the cheerful thrush and melodious nightingale performing the offices of paternal love in thickets ornamented with the rose and the woodbine." How eloquent is this and how true, and other portions of the same delightful book are not less



so. Pray, if not already acquainted with it, read it, as a supplement to Walton ; and, if after the perusal you are not enamoured of the art, cease to think of fly-fishing ; you have not the genius for it—remembering the motto of that work—

“ *Equidem credo quia sit divinitas illis  
Ingenium.*”

AMICUS. All this is very pleasant and seductive, and so I have felt it in reading both authors, which are favourites of mine and have beguiled many a weary fragment of time ; but hitherto with a pre-occupied mind, much after the same manner as Cervantes in his inimitable *Don Quixote*, without creating a passion either to betake myself rod in hand or lance in rest to the river side or highway. Perhaps the genius required is wanting in me ; but I would hope not. Solve me, I pray you, one or two doubts I have on the score of health. In angling is it not necessary to wade, and is not wading attended with risk ? Spasms, apoplexy, palsy, are fearful maladies ; and if I recollect rightly, I have heard them referred to this practice as an exciting cause.

PISCATOR. In excess wading may be danger-

ous, and what is not? Virtue even, we are told by the moralist, then becomes a vice. Moderation in all things is the rule of health. I know of no exception to it. Wading in moderation, and at the proper season, that is, when the water is not very cold, is, I believe, free from danger; I may say, is rather conducive to health than otherwise. It tends to keep the body cool, when, as in exercise, there is a vigorous circulation; and so diminishes fatigue, and more than anything else that I know of, tends to prevent the formation of corns on the feet, or if existing, owing to the undue pressure of ill made or tight shoes, to remove them, and preserve the feet in a sound and healthy state. Waterproof boots for wading have their advocates; but I cannot say that they please me. If worn, they must be used with judgment, and only in wading; for being impervious to moisture, they collect the fluid given off in the form of insensible perspiration, and soon become little better than foot-baths. The extent to which wading may be indulged in, if at all, should be regulated and decided by the judgment of the individual, founded on a knowledge of what he is capable of bearing, much in the same manner

as the ordinary actions of life, even those required for sustaining it, such as eating and drinking. The invalid should avoid it altogether, especially if disposed to apoplexy. But the man of sound constitution need not fear it. One of the benefits of angling is that it is a check on effeminacy—a counter agent to the habits of civilized life, always where there is wealth, in danger of passing into over refinement. Should you take to angling, as I trust you will, I would recommend you to wear laced boots, such as are used in shooting, and worsted stockings, and having them from time to time coated with a mixture made of equal parts of bees-wax, lard, and neat's foot oil melted together. This will keep the leather supple, preserve it, and render it almost water-proof, and yet not prevent the shoe or boot taking a polish. I would also recommend having holes made in your boots, perforations towards the toes, in those for wading and summer-use; they are in two ways useful; one for letting water out after wading, another for letting air in, and so keeping the feet cool in ordinary walking in warm weather.

**AMICUS.** There is an objection made to ang-

ling which I should like to have removed; viz. that it is a solitary amusement, if amusement it can be called. The epithet seems very suitable to that other, "The Contemplative Man's Recreation," but, except in great moderation, hardly accords with my idea of any lasting enjoyment; man's greatest and best pleasures being those which he experiences in the society of his fellow men, he being essentially a social being.

PISCATOR. True; man is a social being, but therefore it is not necessary that he should always be in society. Let us remember that he is also a reflecting, thinking being; and the highest type of man is most so; and, what more conducive to reflection, to productive thought, than occasional solitude, not the dreary solitude of dead confining walls, but the cheerful soothing one of living nature, whether on the shores of the mountain tarn, from whence all traces of art are excluded, or in the flowery meadow, by the rippling brook, with no more of objects of human art than are suitable to the scene, and of a heightening quality. Listen to the irregular stanzas of Izaak Walton's dear friend, the accomplished and too social Cotton, who built a

fishing-house on the banks of his beloved Dove, inscribing on it not his own initials only, but those also of his friend, his father, as he was used to call him in his loving manner, and the respectful mode of the time.

“ Oh! how happy here’s our leisure!  
 Oh! how innocent our pleasure!  
 Oh! ye valleys, oh! ye mountains!  
 Oh! ye groves and crystal fountains!  
 How I love at liberty,  
 By turns to come and visit ye.

Dear Solitude, the soul’s best friend,  
 That Man acquainted with himself does make;  
 And all his Maker’s wonders to intend,  
 With thee I here converse at will,  
 And would be glad to do still,  
 For it is thou alone that keeps the soul awake.”

How much may be said of solitude, and has been in commendation of it! how our great poet sings:—

“ Wisdom’s self,  
 Oft seeks to sweet retired solitude;  
 Where, with her best nurse, Contemplation,  
 She prunes her feathers, and lets grow her wings,  
 That in the various bustle of resort  
 Were all-too ruffled, and sometimes impair’d.”

This is the kind of solitude which accords with angling; the occasional retiring and fol-

lowing the moderate exercise, when so disposed, alone. But do not adopt the notion, which you seem to dread in practice, that angling is necessarily and essentially a solitary pursuit. They who have most experience of it know the contrary, and can recollect with pleasure how some of their happiest fishing days have been passed fishing in company with some cherished friend for salmon, or white trout, or gillaroo, in the same boat whether on Scotch or Irish lake, such as the wild Loch Awe, or the more beautiful lake of Killarney, or that succession or chain of lakes, so various in their character and so charming, belonging to Connemara. Even when sport is followed by the river side, the separation of friends is only for a time. How pleasant the meeting at the late dinner, at the fishing quarters! How pleasant to talk over the exploits and little adventures of the day; and when the sport has been discussed, to pass with freedom to other and higher subjects and discuss them in turn, liberated from the reserve that shackles thought in mixed society. Let me refer you again to Izaak Walton for proof. How enjoyable are his anglers' evening reunions with the cheerful glass, never carried

beyond the bounds of sobriety and the cheerful glee and catch. What a scene of innocent hilarity we have described at that supper in the sixteenth chapter, when, after having fed heartily, they sing merrily (catch and song following one another) the song beginning—

“ Oh the gallant fisher’s life,  
It is the best of any ;  
’Tis full of pleasure, void of strife,  
And ’tis beloved by many :  
    Other joys  
    Are but toys ;  
    Only this  
    Lawful is,  
    For our skill  
    Breeds no ill,  
    But content and pleasure.”

I may refer you, for other proof, to the disposition shown by anglers—brothers of the angle, endearing epithet—to unite themselves into clubs and associations, with the combined intent of having occasional friendly meetings, and of promoting honest angling in contra-distinction to dishonest angling or poaching, that mischievous and low kind that is practised in season and out of season, by day and by night, especially the latter time, by hook and by crook,

in brief, by all possible means ; those who employ them holding such to be best which are most killing and destructive.

AMICUS. I am tolerably satisfied : if you can make out so good a case for fly-making as you have for fly-fishing, I do not know but that I may be equally tempted to ask the favour of you to let me be your companion both on some fishing excursion, when and where there is the best chance of sport, and on some leisure day or hour, when you may be engaged in making a fly, that I may be enabled to judge for myself from practice.

PISCATOR. If I have persuaded you that fly-fishing is not a dull monotonous sport, nor too solitary, nor likely to be injurious to health, but the contrary of these, I fancy I may be able to convince you without much difficulty that the dressing of a fly, or in a larger sense, the preparing your own fishing tackle, may have circumstances to recommend it ; and, further, that the art itself is attainable with tolerable ease,— I will not say so as to acquire a complete mastery of it, and rival the skill of the professional maker who devotes himself to it, but so far as to be able to make a fly that will kill ; or to



imitate rudely, should it be your wish, any fly that may appear on the water on which the fish are feeding at the time.

AMICUS. Do thus much, and you will do me a kindness, for I seem to begin to feel a liking for your river sports and the means of following them.

PISCATOR. First, I will speak of the occupation. Fly-making is a cleanly delicate one, requiring attention, requiring judgment, and for tolerable success requiring accuracy of eye and adroitness of fingers, and, consequently, in the exercise of it conducing to the improvement of all these. Then, the materials employed are such as are pleasing in their aspect, and not without interest in connection with natural history. Besides the hook of polished well tempered steel, they are chiefly silkworm gut, silk thread of different colours and different degrees of fineness, feathers of various hues and qualities, and furs as various, not omitting wax and varnish, gold and silver wire and tinsel, and dyes, and certain implements.

Women are said to have an advantage over men, insomuch as they have indoor work, needlework, and other light work of a mecha-

nical kind, so as to occupy their time and attention and prevent tedium. Fly-making may be viewed in the same light, and may be said to be similarly useful, and if followed at intervals as a diversion and a relaxation even in a greater degree, partly from its variety,—there are so many kinds of flies and means of making them,—and partly from its associations. On a dreary day in the country, who is happier, or at least more abstracted and less discontented than the angler, seated at his fire-side table, with all the pretty and neat requisites of fly-making art orderly arranged before him, thinking, when he is dressing a fly, of the time when he shall use it, and it may be of the very scene, in all its most pleasurable attractions, where it may be brought into successful employ. Even in collecting materials for the art there is an interest and amusement. The fly-maker often has a little museum of his own, and this is more or less valuable according to the taste of the owner, and whether refined and extended by the study of natural history, or contracted into the narrowest limits, confined to the bringing together only the things barely necessary for the fabrication of the few imitations with which he, in-

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curious and of an uninquiring mind, may be satisfied. Duly considered, I am not sure that the amusement and interest derived from fly-making, and connected with it, are not equal to those we owe to fly-fishing itself: be this as it may, I am at least sure that they ought not to be dissociated; and that the angler who does so, unless fully and better occupied, will repent thereof. Question any zealous angler on the subject, one residing in the country or even in a town, if a non-professional man and with leisure at command, and confident I am, if candid, he will tell you how often, when suffering from tedium or some petty annoyance, he has taken refuge, and not in vain, in the dressing of a fly, or in examining his stock in hand in all their pride of varied beauty. This is a resource which may easily be understood by reference to our common nature. The sportsman, on a like occasion, will perhaps seek relief in visiting his stable or dog kennel, or in overlooking his shooting gear. The lover of art will take his own method of seeking ease. I remember a foreigner in the island of Malta, who had a good collection of paintings, most of them choice copies of the old masters, and he assured me,

that when wearied with official business, or harassed by troublesome business or persons, he had only to go home and look at his favourite tableaux, and he was soothed.

AMICUS. Say no more ; I am satisfied. I perceive I have laboured under a mistake, and probably owing to my not attaching sufficient importance, in the instance of men raised above the labouring class, to manual helps such as you allude to ; I, myself, from the nature of my engrossing pursuits, never hitherto having had leisure to the degree requisite to admit *ennui*. I have often indeed thought, hearing of the drunken habits of our labouring men, and of the time and money, and may I not say constitution, wasted in the public house and beer shop, how much it would be for their advantage, had they, after the manner of women, some in-door occupation. One of the evils of the manufacturing system, on the modern gigantic scale, has been to put a stop in a great measure to the old in-door and home industry, such as spinning, weaving, knitting, &c. to which the men in rainy days, and in the long winter evenings could and did betake themselves, and thus, whilst earning something to aid in the support

and contribute to the relief of the wants of their families, they escaped the temptation of drink, and at the same time helped to make the domestic circle contented and cheerful. This, at least, is what one would wish to picture to oneself, and no doubt was often witnessed in families which were right minded and well instructed, however humble. The poet, your favourite poet, has given an example of it in his pathetic story, and that a true one, of old Michael of Grasmere, in whose cottage were the bigger and lesser spinning-wheel, one or other, rarely idle. The time was that of the narrator's youth; and now, sad to think, not a spinning-wheel, I am assured, is to be met with in the Lake District, not even in its most secluded dales, so that if I may mention a little anecdote told me by a friend of the poet's revered widow, that lady, who in her old age finds amusement in knitting socks for her friends, enhancing it and her gifts by using wool from her own sheep, and these pastured at Rydal Mount, is obliged to send her wool to the nearest manufacturing town to have it spun.

PISCATOR. I thank you for this anecdote, so telling. I am glad we are agreed. In the de-

cline of home industry, it is pleasing to think that angling may afford some check. I have often witnessed instances of labourers who have had a love of angling acquire skill in dressing flies, and such I have commonly found more than ordinarily ingenious, and intelligent, and well conducted, capable of turning their hands to many things, and unusually industrious.

I would add another circumstance in favour of fly-making. A little skill in the art enables one not only to give a lesson to others,—to young anglers who may wish to learn it, but also to supply one's friends in their necessities either with a kind of fly they may stand in need of, or with materials they may want. A friend, who I regret to think gave up angling, his mind becoming impaired,—and it was among the first symptoms,—sent me his fishing correspondence: an interesting one it was, full of kindnesses, relating mostly to leave for fishing particular rivers, the seasons and kind of sport, to descriptions of flies suitable to certain waters, &c., intermixed with requests for this or that kind of feather, or other material, and thanks for the receipt of them. Will Honeycomb, in the *Spectator*, is a good example in point; the idle, pleasant, kind-

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hearted, good-natured man, always busy, always welcome : the dressing of a fly was one of his accomplishments, and his fly-gifts stood him in gaining favour more than their weight in gold.

AMICUS. Enough, enough ! You excite my desire rather too much, fearing disappointment. When we meet again, and you have time to spare, I must request you to give me some instruction, and to practise that act of kindness to which you have just been alluding.



## COLLOQUY II.

*Practical and Suggestive.*

AMICUS.



WELL, though unexpectedly met, your rod and fishing pannier remind me of your art, and revive my wish for some instruction in it; and, as I see the lake is unruffled, when I understand there is no chance of sport with the fly, perhaps you will do me the kindness to show me how to make one.

PISCATOR. Willingly. Let us seat ourselves on the soft turf, under the partial shadow of that oak just coming into leaf, and begin our task. How well I remember the time when, in a like spot, even more wild and charming, and at the same season, I received my first lesson from an old angler, whom I found sunning himself at the foot of a rock in a bosky meadow



within sound of the murmuring brook, and within sight of the pretty haunts which were playing and racing here and there in the full enjoyment of young life and bountiful nature.

AMICUS. Pray consider me perfectly ignorant, like a child who has to learn his letters. Begin if you can with the alphabet, the simplest elements of your art.

PISCATOR. I will do my best; and yet, perhaps, I may not succeed, for nothing is more difficult than elementary teaching: but I do not despair with so apt a scholar.

To imitate a fly,—that being the ostensible object of fly-making,—it may be well to call to mind how a fly is constituted. Its principal parts are, you know, a head, body, wings, and legs, with filamentous appendices, of less significance, at one or both extremities. Such is the general model: now see how I attempt to imitate it. I first select the materials required and the implements. Here they are: I take them from my fishing-book. See, the materials are a hook, silk-worm gut, silk thread, wax, a feather, a hackle from a cock's neck, and a wing-feather of the starling, or stare, as the bird is still in many places called. The implements are few,

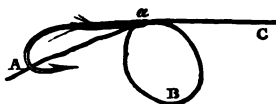
merely a pair of sharp pointed scissors, small in the blade, with large handles, and a forceps, self closing and holding with a spring. The next step is the preparing of the materials, such as waxing the silk, stripping off what is superfluous of the hackle, and detaching from the wing-feather a portion just sufficient to make the wings of the fly. The fabricating stage follows. I take the hook, it shall be No. 6, in my left hand; holding the barbed end by the forefinger and thumb, the point downwards, I place the end of the gut, indented by the pressure of the teeth, so as to render it less liable to slip, under (some prefer placing it over) the shank, and thereto fasten it, by winding (warping) the silk firmly round it, beginning from near the head. When brought sufficiently near the barb, I secure it by a tie and wind back, stopping short of the head, so as to allow sufficient space for the reception of the hackle for the legs, and the portion of quill feather for the wings; the silk-covered part, observe, represents the body. Now I attach the hackle by warping its stripped broader end to the hook. This done, seizing the smaller end with the forceps, I turn the hackle round the hook, securing it by winding

the silk between its fibres, and detach, either by breaking or the scissors, what is more than necessary of the small end. Now, with the fingers pressing the hackle in the direction of the barb, I apply the wings, securing them also in their place for the moment with the same fingers. Next I fasten them to the shank by two or three firm turns of the silk, and tie,—pray observe specially the manner of doing this. I now clip off what is in excess of the wings, and lo, the fly is finished: here it is.



AMICUS. The finishing part, the fastening, to which you specially call my attention, I do not clearly comprehend. Show me, if you please, the manner of doing it again.

PISCATOR. Look how I arrange the silk. After having sufficiently warped it, that is, turned it round the head, I make first this tie, a simple loop-tie. Next, I place the end of the silk thus, and warp, passing the portion B over the head and



over the portion A a, thrice repeating the turn, each time drawing the gut, C, through the loop, to prevent entanglement; lastly, I draw tight the end, A; and thus, the fastening is secured by an invisible knot, not liable to loosen, the thread having so many turns or bindings on it.

See, next, how a hackle-fly may be made, to which some anglers give the preference, considering it more killing than the winged of the same size and colour. I attach the gut to the hook as before; and having brought back the silk nearly to the head, I fasten on this feather, a delicate brown one, from the breast of the



wood-owl, prepared thus by turning the fibres in part back. Next, I seize its finer end with the forceps, and turn the feather round the shank, following it, for making it secure, by the waxed

silk; then, after a single tie, break off what is in excess. Next, I bend back the fibres, and apply the dubbing to represent the body of the fly; this I thus effect: plucking off a little hair from a hare's ear, I attach it by a rotary motion of the fingers to the silk, well waxed afresh, and

this done, I wind the silk round the shank, proceeding towards the barb, near which the final fastening is made thus, viz. by such a loop as this, which I turn over the barb and draw tight, repeating the same thrice; and here is our hackle-fly, or a buz-fly, as it is sometimes called, being supposed to represent a fly buzzing its wings in rapid motion.



When you give your attention to the subject, should you become curious about fly-making, as I hope you will, you will find other methods described and recommended; and should you visit the workshops of the tackle-makers, as I would recommend you to do, you will see probably something peculiar in the way of making in each, one artist preferring this method, another that; or varying the method according to the kind of fly required. These variations it would be as useless as tedious to attempt to describe; and the same remark applies to the minutiae of the art, which can be learnt only practically.

I perceive the breeze which has just sprung up is beginning to freshen ; soon the water may be fit for a cast. We will rest a little longer, and whilst waiting, I will show you how to make the casting-line ; the fine terminal portion consisting of gut, and how to attach the flies.

And let me first remark, that to fall lightly on the water, and not to disturb or attract the notice of the fish, the casting-line should always be made as fine as is compatible with the strength required ; that is, the power of the resisting fish to be captured. The finer it is, generally, the greater the success, qualified as just mentioned. It should be about the length of the rod, and made tapering, thickest at its junction with the main line, and finest towards its free extremity. This is easily effected by selecting lengths of gut of different degrees of thickness, which are to be had at every fishing-tackle shop. The manner of joining the pieces is this : I place the two links side by side, and make with the end of each a running knot on the other, and then draw them together ; or, thus bringing the ends together and making a running knot. Either answers well.



For greater security, when strength is needed, two turns of the ends should be made in the one instance, the first,



and the same in the second, and before drawing tight, the part A should be turned round the coil B; or, when the gut is thick, the ends, after having been clipped so as to project about the eighth of an inch from the knot, should be fastened down by a warping of fine well waxed silk. In doing this there is a method, the finishing off, which is known by the name of the invisible fastening, and is effected after this manner. See; it is worth remembering, being applicable to other purposes, especially to the splicing of pieces of a rod.



Care is required to draw close the coils in succession, beginning with the last made.

Now let us attach the casting-line to the main-line. I make a loop, you observe, at the thickest end of the former; there is already a loop at the end of the main-line. I pass one over the other, and that of the casting-line over the loop of the main, and



the remainder of the casting-line through the loop of the main-line, and then draw the two loops together.

I shall now put on two flies, and they shall be those just made; one as a tail-fly, the other as a bob-fly, or dropper. I loop the gut of each. The tail-fly I attach in the same manner as the casting-line, having, as you see, made a loop at its fine extremity. The dropper, the gut of which I shorten so as to reduce it to about three inches, I fasten by means of a loop over the casting-line, at the distance of about three feet from the tail-fly.

Let us now rise and go to the lake. If I do not deceive myself; we shall have a good chance of some sport, for I see there is a fine ripple on the water, and the wind is from the right quarter, the genial and warm south-west. Pray take the landing-net, for we may have occasion for its use. Now that we are on our feet, I may remark that I have dwelt more on knots and fastenings than you may think necessary, because they are, in truth, both necessary and important, the latter especially, and more than the unpractised can imagine. A knowledge of them, indeed, is essential to neatness



and strength, whether in the construction of the artificial fly, or the making of the most ordinary tackle; and without neatness and strength of tackle in all its parts, there can hardly be successful fishing.

AMICUS. Now we are within a few paces of the margin of the lake, I will seat myself under this tree and watch your doings. I hope soon to be required to bring into use the implement I carry—the landing-net.

PISCATOR. Observe how I wheel the rod with a gentle motion backward, accelerating it forward and letting the flies fall lightly on the water. Ah! There was a rise! The fish is hooked, and it is a lively one. What summer-sets he makes! Now he is near the shore. Be ready. He is landed, a fish not less than a pound, and in excellent condition, marked by the smallness of the head, the thickness of the body, and its clean and brilliant colouring.

AMICUS. Why use the landing-net? Why not have drawn him out at once?

PISCATOR. See, there is a bank, and though a low one, only about a foot high, I should have had to have lifted the fish this space through the air, risking its loss by the breaking of the

gut, which you will readily comprehend, taking into account the different degrees of resistance or force to contend with in the two media, water and air. I have had the curiosity to weigh trouts in water and air, for the purpose of ascertaining their specific gravity. When the air-bladder—all the Salmonidæ, remember, are provided with an air-bladder—was tolerably distended, I found the specific gravity of the fish—it was a small one—little exceeding that of water, being only 10,177 to water as 10,000: and, in another instance, a larger fish, and in the air-bladder of which there was little air, its specific gravity did not exceed 10,610. The small fish weighed only 10·2 grs. in water, but 456·3 grs. in air; the larger weighed in air 832·3 grs., in water only 48·3 grs., so great was the difference,—a difference well adapted to show the use of the landing-net; or, if not provided with it, when one has the good fortune to hook a heavy fish, the propriety of landing it where the water is shallow, and not attempting to lift it out of the water.

AMICUS. What you mention is interesting. I am beginning now to perceive how angling may be associated with the exact sciences, as

well as with natural history, and thereby have an additional charm imparted to it.

PISCATOR. It is most true; and the more you prosecute the art and enter into the study of fish, the more you will be convinced of its widely connected interests. Even the air in the air-bladder is an example; it is a fit subject for research; as is also the bladder itself, in which, by means of a glandular structure pertaining to it, the air is secreted.

AMICUS. You were right in your prognostics as to the favouring wind. What success you have had! In a short half hour you have captured six fine and beautiful trout!

PISCATOR. Now try your hand; commencing with a short line, gradually lengthening it.

AMICUS. I cannot reach that part where the fish are rising without running out more line. What noise was that like the crack of a whip?

PISCATOR. That of your line too rapidly returned; and that crack, I dare say, has lost you a fly. Let us see. So it is. And rest content many more you will lose before you become an accomplished angler; but be not discouraged; I may say as Nelson did on seeing a midshipman in a tremor on first going into action,

“ It was the same with me in my first trial.”  
Here is a fly to supply the place of your lost one.

AMICUS. Ah, I have risen and hooked a fish, and surely a large one. But he is off.

PISCATOR. And you are again minus a fly. You struck too forcibly, and the loss of the fly was the consequence. Till you have acquired a certain degree of skill, you had better leave the fish to hook itself.

AMICUS. I will follow your advice. A fish has taken my dropper. How he runs out the line and makes the reel click!

PISCATOR. That click of the reel is music! Be patient and steady. The fish is the heaviest that has taken the fly to-day. Let him exhaust some of his strength, keeping a tight line on him with the butt of your rod well raised. Now he wearies. He is captured. “ Glory to you,” I say, in the cheering manner of an old Irish fisherman, who always used the expression when a friend of mine whom he accompanied, then a youth and in his novitiate, took a salmon, though when he effected a capture himself he gave vent to his feeling merely by the guttural “ Ugh.”

AMICUS. I am happy, and will stop, having accomplished more than I ever expected,—killed a trout, which you say is over two pounds. Whilst we walk to our temporary home, to which you have invited me, allow me to ask you respecting points I should be glad to be informed about; and, first, what is gut, which seems so essential to fly-fishing? From whence is it obtained, and what are the marks of that best fitted for use?

PISCATOR. Silkworm gut, as the name implies, is obtained from the silkworm, and in substance and composition differs but little from silk. When the caterpillar, the silkworm, is mature for passing into the chrysalis state, and has in store the material for forming her cocoon,—her nest of silk, in which to be enveloped when in that state,—she is killed by being immersed in vinegar: the silk bag is opened, and its semifluid viscid contents drawn out into a thread, which presently hardening on exposure to the air, constitutes what you are inquiring about. It is only of late years that gut has come into use for the purpose to which it is applied by the angler, that is, within the last hundred years, and since the time that Izaak Walton

and Cotton wrote, they making no mention of it, and employing always, as well for attaching their flies as for their casting-line and main-line, horse hair, to which even now some delicate anglers give the preference, when they can get choice hair of unusual strength. The late adoption of gut is not surprising, considering the history of silk, and how in comparatively modern times, from a curiosity, and that a precious one, it has rapidly come into such common use. You may remember that, even so late as the time of King James, it was hardly known in England, and that the first pair of silk stockings worn by a British monarch was lent him by a subject, the Earl of Arundel, on his return from Italy, from whence he had brought them. As for the quality of gut best fitting it for the angler, I may mention roundness and perfect smoothness and uniformity of thread, such being strongest, least liable to twist, and, in proportion to its strength, least liable to startle the fish. The newer it is the better; and the same remark applies to silk generally, both becoming weaker, and the former more brittle, with age. It is made of various degrees of thickness. The angler making his choice will do so according to

the kind of fishing for which it is required. The extremes of his scale will be that for salmon and that for grayling; the first needing the strongest tackle to hold it; the latter, the finest to catch it. The greater the skill of the angler, the finer the gut he will choose, and the greater his success will be, and this almost as much in angling for the most powerful fish, such as the salmon, as for the smallest and weakest. Before using gut, it is well to moisten it. This is the more deserving of attention in making the casting line. All, or nearly all, animal and vegetable substances acquire more or less of brittleness on being thoroughly dried, and of toughness by the absorption of moisture. Moreover, most of them swell in their fibre, and shorten on being wetted; and consequently fastenings made with fibres moist, must be less liable to loosen than when made with dry fibres. As a rule for strength and neatness, I believe it may be laid down that the knots should be made when the gut is moist, and that the cut ends should be warped with silk when dry. It is well to observe not to coil the casting-line wet; or if wet, to coil it not in narrow space; it is then best wound round the hat: it is well, too, in coiling

it to put it by, to commence with the thinner end, winding it round the outstretched fingers, then you have the thicker portion to wind about the coil itself for security. One defect pertaining to it, for, like most things, it is not perfect, gut is apt to fray with use. This may in great measure be prevented, if thought worth while, by waxing it. A twist may be taken out of it by the same means; and in consequence some anglers are in the habit of passing their casting-line through wax two or three times before beginning to fish: whilst some others rub it with pencil-lead, or plumbago; but in this latter instance chiefly with the intent to dull its glistening white colour; and others employ Indian rubber. This last method of straitening the gut, we are informed in "*Salmonia*," was first used by Dr. Wollaston, a philosopher, who in advanced age became an angler, and a keen one, and we may be sure with no common enjoyment. Part of his fishing equipment was a piece of Indian rubber attached by a string to a buttonhole.

AMICUS. I perceive that the gut forming your casting-line and that of your flies is not of the same hue; how is that?

PISCATOR. Both are stained; the one brown-



ish, having been intended for a Highland stream, coloured brown by peat; the other bluish, very light, for a clear colourless stream of the Lake district. The former is stained by immersion in a weak infusion of logwood; the other, in a strong infusion of green tea, to which a little ink has been added. To make the stain permanent, a mordant also should be used, such a one is alum; the gut either before or after being stained by the colouring matter, should be dipped in a solution of this salt. There are many other modes of dyeing gut as well as feathers; affording thus, I may remark, another connexion of the angler's art, viz. with that of the dyer, in all its details and refinements a beautiful and most useful chemical art.

AMICUS. You have more than once spoken of wax. Pray what is it that you so designate; and is there more than one kind used by anglers?

PISCATOR. Wax, you know, in its most general sense, implies any thing tenacious, used for certain purposes, and not necessarily the wax of the chemists, bees-wax, of vegetable origin, and itself composed of two proximate principles, cerine and myricine. The wax em-

ployed by anglers is artificially made. That most generally in use is shoemaker's wax, which is formed of rosin, pitch and oil, mixed over the fire, at a temperature little more than sufficient to insure complete liquefaction, and in such proportions as to make the compound of a proper consistence. A defect of this kind of wax is, that it is liable to become brittle with age, and then not to hold well, owing probably to the loss of the volatile part of the pitch. This is partially remedied by adding to it a portion of lard blending them by fusion; thus the wax is rendered tougher. Another objection, owing to the pitch, is its dark colour, masking or injuring all bright coloured silk to which it is applied. The wax I have found most useful and least faulty is one, the preparing of which I learned from an old Irish fisherman in the wilds of Connemara; and he, he told me, had the recipe from an English gentleman, a skilful angler, who assured him, that he had paid five pounds for the secret of its composition. I give the recipe almost verbatim. You will see that it is free from any volatile matter:—

“ Two ounces of best yellow rosin; one drachm of bees wax. Put them into a pipkin

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over a slow fire till completely melted. Then add a quarter of an ounce of spermaceti; and let the whole simmer, constantly stirring it for a quarter of an hour longer. Pour the melted mass into a basin of clear cold water: it will instantly become thick. In this state, and while yet warm, work it, by pulling it through the fingers until cold. This last operation is necessary to make the wax tough, and to give it that silvery hue it has when made in perfection. It is called transparent wax,"—a name, I may remark, it hardly deserves, being only slightly translucent; it is, however, almost colourless.

The property of this wax, in common with any other composition fit to be used by the angler as wax, is that it softens by warmth—a difference of a few degrees being sufficient to convert it from being hard and brittle and unadhesive to the touch, to soft, yielding and sticky. Consequently, wax does not work well in cold weather or in cold fingers; and flies, therefore, should not be dressed under such circumstances; for if they are, they will prove treacherous, slipping from the gut on the least application of force. The true time for fly-making is when the weather is warm; or, if you

choose to be independent of the external air, in a well warmed room, nearer 70° of Fahrenheit than 60°. In using wax it is best to detach a small portion from the mass, a portion little bigger than a pea, and to work it between the fingers till it is properly softened; and the silk should be waxed only the instant before it is used; and, in the process of making the fly, the waxing may be repeated once or more, so as to be sure of good adhesion.

AMICUS. I have been irregular in my inquiries: I fancy I ought first to have begged information respecting the hook. Pray, instruct me about it.

PISCATOR. Truly your first questioning should have been about it, inasmuch as in the hook, it would appear, if we are to credit the learned in the law, the principle of angling is involved; angle and hook being synonymes, and angling merely fishing with a hook, however the hook may be used, whether baited or naked, whether as a lure in the form of an artificial fly, or for snatching up the fish by "klicking," as it is called in the Lake district, that is, by dropping the hook underneath the fish, and fastening it foul by a sudden jerk—a method

which all true anglers must denounce and hold up to abhorrence as barbarous and poaching, and the more especially as it is only practised during the breeding season, and on the comparatively rare fish, the delicate Charr, which then leaves the deep water for the shallow, and is thus easily taken. As it is not usual for anglers, even the most zealous, to make their own hooks, I shall not enter into the particulars how they are made; these you may learn by consulting "Salmonia," in which, as from personal knowledge, the method is described, that employed by a celebrated Irish artist, O'Shaughnessy of Limerick, whose salmon hooks, under the name of Limerick hooks, were long in high repute. It may suffice to speak of the qualities of hooks, and how they should be tested. Their prime qualities should be strength and toughness; a good hook should neither break nor bend. If it break without bending, under no immoderate pressure, the steel has been too highly tempered; if it bend under the same pressure, either it has not been sufficiently tempered, or has not, from soft iron, been properly converted into steel. Those who are curious about their hooks, commonly try them

before using them, which is easily done by attaching them successively by the barb to a soft piece of wood—a fixture—and applying, in the way of traction, a force you are sure will exceed that of any fish the hook is designed to hold captive. The hooks of different makers vary somewhat in their forms: the greatest difference that I know of is to be seen in the Kendal and the Limerick hooks,—the Kendal “sneck” hook, as it is complimentarily called in the north of



England, such as this, (K), and the Limerick, of which we have been speaking, and of which this is an example, (L). Some anglers prefer the one, some the other: in

Ireland, indeed in most parts of England, I think the more graceful curve is preferred. Apart from beauty of form, I have heard the advocate of the Limerick hook, object to the Kendal—that the fish, when hooked, can more readily get rid of the hook, it having a broader base than the Limerick to act on; a reason, as it seems to me, of very doubtful cogency. Hooks are numbered or marked according to their size. By the Kendal makers, the small-

est are marked by 00; the next in size by 0; the next as No. 1; and so on in sequence gradually increasing. It is well to remember this, so that if you have occasion to order a supply by post, there may be no mistake made as to the size.

AMICUS. Is the same method of numbering observed elsewhere?

PISCATOR. No; and it is to be regretted that it is not. In Dublin, for instance, in one of the principal tackle shops, the method is reversed; the largest salmon hooks are marked 0, the number increasing with the lessening size of the hook; whilst in another shop of the same city letters are used to denote the size of hooks.

AMICUS. Now from the hook allow me to turn to the rod, and inquire about it, for surely it is essential to angling. What are the qualities which a good serviceable rod should possess?

PISCATOR. Though the honest angler will have no hesitation in saying that there is no lawful angling without the angling-rod, you cannot be sure that such would be the opinion of Counsel; he probably would decide that

taking fish with a ground line,—because a hook is used,—is angling. Would that we had explicit law on the subject, and a good definition warranted by Act of Parliament as to what angling is. As to quality of rod, that, *ceteris paribus*, is best by which the greatest length of line can be thrown, is least liable to break, is lightest, most easily taken to pieces, and subject to fewest accidents. The spliced rod, I think, is on the whole deserving of preference; that is, the rod, the several pieces of which are joined together at the time of using by a splicing of waxed thread. It bends more equably than any other, is most easily taken to pieces, is liable to fewest accidents, and is of cheapest construction. When the joinings are by means of ferrules and screws, whilst the litherness of the rod cannot but be impaired, annoyance is liable to be experienced unless unusual care be taken in unfastening, especially after exposure to rain or wet, with swelling of the joints in consequence; and not less trouble in repairing should a part be fractured. Apart from the manner of joining, the goodness of a rod depends very much on the quality of the wood of which it is formed, and the degree in which



it is tapered. In a very useful little book on fly-fishing, "Practical Fly-fishing, founded on Nature, by Arundo," written by a worthy friend of mine, an accomplished angler, there are good directions for making a single-handed trout rod. Here is an example of one for small rivers or brook-fishing, where the greatest delicacy and skill are required in casting the fly and killing the fish, if of good size. It consists of three pieces; the butt of yellow pine, five feet long; the middle of logwood, four feet; the top also of logwood, three feet three inches and half. For the minute details, as to the thickness of the several parts and the splices, I must refer you to the work itself; and also for a description of the good qualities of a rod thus constructed. I may notice, however, particularly the advantage of using logwood; it is its great elasticity and enduring strength: I agree with the author, that after using a rod made after his plan, all of this wood, excepting the butt, one is not satisfied with a rod of any other wood. The brittleness of logwood is indeed an objection to it; I know of no other. When a longer rod is required, as for salmon-fishing, or for fishing a wide river, or from the shore of a

lake, one of about sixteen feet in length, a two-handed one is to be chosen: it may be conveniently made after the fashion of the best Irish rods, the second piece to join the butt by a ferrule; the next by a splice. And let me add one precaution which is worthy of attention. When at the end of the season you put by your rods, do not place them against a wall or on a shelf, but hang them perpendicularly, and by so doing you will prevent their warping, that is, losing their straightness.

AMICUS. What kind of reel do you most approve; for it is surely a needful addition to the rod? Without it—and I think I have seen labourers thus unprovided—great inconvenience must be experienced.

PISCATOR. Truly so; no one but the very poorest will do without this aid. The qualities for which a reel should be selected are chiefly strength, not being liable to get out of order, and at the same time working readily. The simplest structure I have found to answer best, and the single I prefer to the multiplying reel. The most useful I have ever had was entirely of brass, even to the handle, and so strong, the parts so firmly screwed together as to be secure

from accident. The cylinder on which the line is wound was large, and consequently even without a multiplying wheel, it allowed of the shortening of the line when needed, rapidly. It is when taking powerful fish which require to be played, that the qualities of the reel are chiefly tested, and when, as in the instance of the salmon, it is of importance to let out and take in line without risk of check, and in very brief time, so as to prevent any great strain on the line endangering breaking, and yet to keep up a certain degree of pressure on the fish. Reels fitted for the purpose you will find in any good fishing-tackle shop in London, Dublin or Edinburgh, or indeed in any large provincial town in the neighbourhood of which there is a salmon river.

AMICUS. One question more: I have heard of fishing-books; and you have shown me yours, which I rather admire than envy the possession of, it is so bulky and elaborate. Tell me, if you please, the kind of thing best fitted for my tyro taste and wants.

PISCATOR. Suit your own taste, which you can easily do, in any fishing-tackle shop; or, what may be better, suspend your choice till

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your love of angling has been tried and confirmed. In the meantime, even the common cover of a letter will do well to hold all you require, such as a casting-line or two, and a dozen or two of flies. When you do choose a fishing-book, as I trust you will, whatever its form, size, or composition, let me advise you to have its binding of Russian leather. The advantage of this leather is, that it is a safeguard against insects, the larvæ of which are great enemies of artificial flies, feeding on them, and devouring their feathery part. If you cannot get a book with such binding,—and such a one is rarely to be had ready made,—the next best advice I can offer is, that you pour some essential oil into the book you get; or, when not using it, keeping it in a drawer in which are some pieces of camphor. It is well to recollect that insects dislike perfumes, and that those so agreeable to us are fatal to the majority of them. If you have any doubt, you can easily remove it by a simple experiment; for instance, by placing an insect together with a drop of attar of roses, or the oil of lavender, or any other essential oil, under a wine-glass inverted; the insect will presently become senseless, as if acted on by ether or chloroform,

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and unless taken out, will soon be deprived of life.

AMICUS. Liking perfumes, I like your advice. It is a good example of the *utile et dulce*. Hitherto I have considered perfumes only as a luxury.

PISCATOR. By becoming an angler, you may learn other secrets, or rather, I should say, other useful and, it may be, curious particulars, for secrets the honest angler has none. See, we are at our inn! I am glad I have prevailed on you to let me have your company for a day or two. In the evening, if not too tired, we can resume the conversation: and proud I shall be and happy if I make a convert of you to my angling views, and in so doing, strengthen the old tie of friendship which absence and distance may have somewhat loosened. Remember the words of the Roman, in his *De Amicitia*, “*Nihil esse, quod ad se rem ullam tam alliciat et contrahat, quàm ad amicitiam similitudo.*”



### COLLOQUY III.

*Zoological and Discursive.*

PISCATOR.



WE have now finished our dinner ; or rather, for my share, dinner and tea combined. And trust me, if I may be allowed to speak from long experience, that after a good day's fishing, no beverage is more refreshing than tea ; and that to those in vigorous health, or even average health, the Abernethian maxim is best, viz. to satisfy the more urgent want first, and after allaying hunger to relieve thirst. In proof of the refreshing effect, I am ready, if agreeable to you, to perform the promise I made, and give such information as I may be able respecting fish as objects of natural history. Some of the particulars can hardly fail to interest you, and if you become, as I am now sanguine you

will, an angler, may be of use in following the sport.

AMICUS. My own experience is in favour of your dietetic rules, though I have not followed them to-day: those who doubt them, would do well to consult the narratives of our intrepid arctic travellers. But to our subject, on which you are so kind as to offer information. Do not laugh, smile you may, at the question in starting I am about to ask. What is a fish? what are its characteristics? Is a whale a fish?

PISCATOR. Assuredly not; no more than a bat is a bird. It is the more important parts of the organization which naturalists have selected for establishing the larger generalization, such as classes—parts by which the vital functions and the reproductive are performed. Considered in relation to its special class, a fish is an animal with a single heart, that is, composed of an auricle and ventricle, and with breathing organs, branchia or gills, which act on the water passing through them, and separate the vital air it contains, thereby aerating or oxygenating the blood.

AMICUS. According to this definition, is not a frog a fish, or at least in its early stage as a

tadpole ; for surely I have read that it possesses a single auricle and ventricle, and I know that the tadpole has gills, and lives in water with the habits of a fish.

PISCATOR. No. The frog, and other reptiles nearly allied to the frog, the Batrachians, may be viewed as a connecting link. Their heart, which was long supposed to consist of one auricle and ventricle, is in reality composed of two auricles ; thus associating them with the higher classes, birds and mammalia ; and of one ventricle, thus connecting them with the lower class, fishes.

AMICUS. You before spoke of the air-bladder as pertaining to all the Salmonidæ, and as an interesting subject for inquiry. What is its use, and what is the quality of the air ?

PISCATOR. In every instance that I have examined the air, and I have tried it in the trout, the white trout, and salmon, I have found it to be composed almost entirely of azote, with a trace only of carbonic acid and oxygen. Its function probably is complex. One of its uses may be to counteract the weight of the fish, and promote its rapid ascent. Another may be—I allude to the secretion, the azote—as an aid to the kidneys in separating this substance from the blood.



AMICUS. What of their senses and appetites? I am desirous of information respecting these, to enable me to determine whether I shall be an angler or not; for should it appear that fish are gifted with a high sensibility, or have qualities of an endearing kind, I am doubtful that I could with a good conscience become one of your gentle fraternity, or adopt the epithet except in irony.

PISCATOR. You shall judge for yourself. I shall endeavour, in imparting what you want to know, to be as truthful as possible. Fish certainly have five senses, in common with man, and it is possible a sixth, by which they may be conscious of certain states of atmosphere, of which we have no distinct perception. But this is conjecture, and, whether true or false, it may be long before we have a sufficiency of facts to determine.

Of all their senses, the sight seems to be the one of greatest acuteness, and on which they are most dependent. In the embryo fish, its organ the eye is the first that is seen distinctly formed, and of all is most elaborate in its structure, hardly less so than that of man, and with a power of adjustment probably greater, fitting it

to view objects distinctly at different distances, and in the different media of water and air. It is easy to test and convince yourself of the quickness of the eye of the fish. You can seldom get sight of a trout, but that he sees you and takes alarm and starts off. Where trout are kept in a pond and are fed, it is amusing to observe the instant rush they make, and that often from a distance of several feet or yards, when a worm is thrown into the water. Considering their power of vision, the maxim to fish far and fine is well founded; with this condition, however, to insure success, that the two, *far* and *fine*, be not disjoined; and consequently the young angler must be satisfied with increasing the length of his cast as he improves in delicacy of casting.

The sense probably next in acuteness to that of sight is that of smell. This is an inference which may be drawn from the size of the olfactory nerve, and the situation in which it is placed, so as to render it easily acted on by water. Look, for instance, at this trout, one reserved for our breakfast to-morrow. Here, between the mouth and the eyes, at a spot corresponding to that of the nose in the mammalia,

is the shallow cavity on which the nerve of smell is elegantly radiated. Observe its two apertures, both external, through which the water in passing may make an impression, if containing any odorous particles; and that such an impression may be made under water you may easily convince yourself, by plunging your head into water to which some scent has been added; then, on drawing the water into the nostril, you will immediately perceive the perfume; at least, such has been the result whenever I have made the trial. What the degree of acuteness of this sense is in fish has not been ascertained. Probably it is not very refined; and now less attention is paid to it practically than formerly, when scented baits appear from old books on angling to have been in repute.

**AMICUS.** Is there any communication between the olfactory organ and the respiratory, such as exists in the mammalia?

**PISCATOR.** There is none; and the absence of it is one of the distinctive marks of the class. The gills receive the water, the air in which is to supply oxygen to the blood, solely through the mouth, by the action of the branchial coverings, after the manner of a forcing pump: it is

true, indeed, that in the cartilaginous fish there is in the roof of the mouth an aperture through which water can pass when the mouth is closed, but this is not an exception, insomuch that it is not connected with the cavity containing the olfactory nerve.

The sense of taste which fish possess is probably very imperfect, even more so than that of smell. We may thus conclude, taking into account that the gustatory nerves are small, and likewise from the manner in which fish swallow their food entire: I speak now specially of the Salmonidæ. From this circumstance you might, perhaps, be induced to think that they are without the sense altogether. But as we know that they are in the habit of rejecting those things not fit for food,—they take into their mouths a great variety as it were for trial,—I think we must admit that they have the sense, and if not for enjoyment, at least for the purpose of discrimination. The angler, aware of this habit, thinks it right to strike the instant the fish takes the fly or bait, supposing that so soon as the lure is discovered it will be rejected; though I have heard it advocated that the practice is injurious, and that by suddenly withdrawing the fly, there

is less chance of the fish hooking himself, or, missing the first attempt to seize it, he is deprived of the opportunity of following and repeating it. This is a question, should you take to the art, which you may try to settle. More, I believe, may be said in favour of the old practice of striking, if done with skill and delicacy, than of the contrary.

The sense of hearing, there is reason to believe, is but obtuse in fish. The nature of the organ, the apparatus for hearing, in its great simplicity, and included as it is in solid matter, bone, or cartilage, leads to this conclusion, and all the experiments which have been made to test the sense are confirmatory; thus, the report of guns close to the river have been found to have had no startling effect on trout carefully watched at the instant. So anglers need have no apprehension of scaring the fish by talking with a friend, or of calling, at the highest pitch of the voice, if alone and in want of a helping hand. As we presume that Nature does nothing in vain, it may be conjectured that the inner ear of the fish, suitable to the element in which it lives, is designed mainly, it may be solely, for conveying strong impulses through the water,

such as those produced by cataracts and the like, and intended to warn the fish of danger, and enable it to judge of the force, the impetus with which it may have to contend.

The last of the five senses, the touch, is probably over most parts of the surface very obtuse. The scaly covering, itself destitute of sensation, like our nail, leads to this belief, as do many facts which the experience of the angler furnishes. Often a trout has been captured with a hook in its mouth, which it had carried off only an hour or two before. I have retaken a salmon liberated as short a time, heedless of the wound given by the gaff in landing him: and other instances of the like kind have been related to me by accurate observers. Hence, I think, on the score of sensitiveness, you need have no compunction of conscience in becoming an angler; and were you acquainted with the habits of fish in all their details, you would, I am sure, be quite at ease on the subject. I allude now to the two great functions by which as individuals they are supported and their species maintained; viz. their mode of feeding and of breeding; both carried on in the most inhuman way, according to our ideas of humanity. Take the example of

a trout : its food is entirely animal matter, and its favourite food living animals, which it seizes and swallows entire ; and so indiscriminately voracious is it, that with the exception of the poisonous toad, there is no living creature that comes in its way it will not devour, from the frog or mouse to the common fly and gnat, from the slimy slug to the stony incased larva, and not even sparing its own kind, it being no uncommon occurrence to take a large trout with a smaller one in its stomach. In manner of breeding they can hardly be said to show any parental affection, at least the Salmonidæ. Their eggs are deserted, after having been properly deposited in a suitable bed of gravel, left to the mercy of chance to be hatched, and the young fish consequently never know their parents, who, Saturn-like, often feed on their helpless offspring.

AMICUS. You have given me information to reflect on, and I think I may say to harden my heart against these beautiful and cruel creatures, these cannibal monsters ! But let me not abuse them, as they are merely following their instincts, and acting in accordance with their nature and organization ; and no doubt performing a useful part in the economy of nature.

PISCATOR. Unquestionably: all their habits, I believe, if carefully considered, justify the remark. The breeding of fish, which perhaps we may return to somewhat in detail, should it be your wish, affords a striking example. Now I will only mention, that though so careless of their ova when deposited, yet, at the time when they are in the act of shedding them, and when a male is always associated with a female, they not only do not feed on their eggs, but laboriously make a bed in the gravel for their reception, and drive away other fish intent on devouring them. This is well known in the instance of the salmon;—it, the male, has often been seen fiercely turning on and driving away trout; the latter collecting about the spawning-beds, with the intent of feeding on the salmon roe, of which they are specially destructive. From the gullet of one trout, a large one, we are assured that no less than six hundred salmon ova were obtained, some of which, put apart, were afterwards hatched, using the artificial process.

AMICUS. How is it, the trout being so voracious and omnivorous, that the angler need be at any trouble in selecting his baits, and more especially in the instance of flies?



PISCATOR. In reply I may say, it is probable the fish prefers one kind of food to another; indeed of that there can be no doubt; and so in favour of the inference that it is capable of tasting and distinguishing flavours, however coarsely. Perhaps the angler generally gives the fish credit for more discrimination than it exercises, and over-refines in the attempt to assign certain forms of artificial flies to the several months of the year, and to the different states of atmosphere occurring during the fishing season. The number of species of British insects is large; from ten to twelve thousand are already known to naturalists, and have been described; and the number of species of spiders, on which the trout also feeds, is not less than four or five hundred: how vain then, it may be said, to attempt imitations. And some good naturalists, and also experienced anglers, are of this opinion. Though they may be generally right, I am disposed to believe that they apply the conclusion too strictly, and that there are times when one particular kind of fly is on the water in abundance, and having attracted the attention of the fish, they will feed on no other; and that then, in consequence, little success is to be expected ex-

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cept by using an imitation of the prevailing fly. It is easy to adduce facts in illustration. The lakes of Westmeath in Ireland afford a striking example. There, whilst the May-fly is on the water, commencing in the month of May, early or late according to the warmth of the season, there is excellent fly-fishing, using either the May-fly itself by dapping, or its imitation in the ordinary way of casting. Then fish of a large size, seldom under two or three pounds, and often from three to five and six, may thus be taken—fish as good for the table as for sport. So soon as the fly is off, the season ceases; these great trout are no longer to be captured by fly-fishing, or rarely, though they may be, and often are, by trolling. I have known two anglers, using the natural fly, take in one day twenty-four of these great fish, altogether weighing ninety-four pounds: this was in the last week of May. The Bracken-clock affords another instance of the like kind. When this fly is on the water, the angler will be disappointed if he expects success, unless he can condescend to the tame process of dapping; then, under favourable circumstances, using this fly, he may soon fill his pannier.

AMICUS. What a pity that such excellent trout-fishing as that of the Westmeath lakes, and so accessible and open, as I have heard, to all honest anglers, should be so limited as to time, for I suppose the duration of the May-fly on the water is short.

PISCATOR. I am glad to perceive indications of your becoming interested in angling. Should you ever visit these lakes, it is worth knowing that this favourite fly of the trout does not make its appearance on all of them at the same time; but, very conveniently, as it were to prolong the diversion of the angler, successively on the three which are connected, and thus extending over a period of rather more than two months, viz. from about the middle of May to about the first of August.

AMICUS. Your statements respecting the habits of the trout, I must admit, may well remove any scruple of conscience about engaging in angling, so far as mere humanity is concerned: indeed, the humane man may logically hold that, in killing a trout, especially a large one, he kills a destructive and cruel tyrant, and is the means of saving the lives of innumerable living beings. This being proved to my satisfaction, and feel-

ing well disposed towards angling, I should be glad to know more of the family of the Salmonidæ. Pray what is their intelligence?

PISCATOR. Their instincts, no doubt, are strong, on which they are most dependent; their intelligence seems to be feeble; it is perhaps most shown in the faculty of memory. Where a river is much fished, more skill and more deceptive flies are required for success than in a river seldom fished. An oriental traveller related to me an instance in proof. In a mountainous district in Persia, he came to a fine stream abounding in trout, on which an artificial fly had never been cast. Provided with rod and tackle, for he was a zealous angler, and never travelled without them whenever there was any chance of following his favourite sport, he sat down and made a fly like those he saw the trout feeding on. Using this till he was tired, at each cast he raised a fish, and hooked so many of those he rose, that great was his success. The next day he resumed his fishing, but found it necessary to shift his ground, those which had been thrown over the day before having, he inferred, become wary, as if cognisant of the artificial lure. And you will find somewhat in

confirmation, that if you follow an angler, though it may be after the lapse of half an hour or more, you will have little chance of success in fishing the same stream.

AMICUS. Have we not proof also of the memory of the fish in the manner in which, the instant it sees man, it darts away alarmed, as if conscious of present danger?

PISCATOR. This avoidance of man may be from an instinctive feeling of danger, which we witness in so many animals, and most of all in the youngest and most helpless: before they have had any experience of the risks to which they are exposed, the young trout, and all the young of the Salmonidæ, the moment they leave the egg are most easily alarmed; they hide themselves, darting off from any moving object approaching them. Were they without this instinctive dread, the race probably would soon be lost, they being the favourite food of so many animals.

AMICUS. Are there any well marked peculiarities in their habits, comparing them with other and higher classes of beings with which we are better acquainted? You have told me how they eat; pray, do they drink and sleep?

PISCATOR. Though we have the saying expressive of intemperance in drinking, "to drink like a fish," yet I can confidently say that we have no proof of their ever indulging in drink. I have opened the stomach of the trout in a hundred instances and more, and have never found it distended with fluid; or more fluid in it than might be accounted for on the supposition of secretion from the organ itself, for the purpose of moistening the food swallowed. Other circumstances are in accordance, as the medium in which they live; there being no loss of the fluids of the body by perspiration, and very little by the action of the kidneys. This instance of a proverbial saying being false, may—unless it be held as a jocular one—put us on our guard as to proverbial sayings in general, and suggest the propriety of considering whether they are founded on fact, or are merely loose modes of sententious speaking.

As to sleep, fish, I believe, do rest and "steep their senses in forgetfulness," and this probably more by night than by day. I am led to this conclusion from observations on very young fish. These, about the darkest part of the night, when confined in glasses so as to be easily seen, I have

noticed immoveable, resting on the bottom of the vessel, and quite regardless of an approaching object, not stirring till they have been almost touched; so different in this respect from their manner when awake by day. Perhaps their hours of rest vary in some measure according to their age and wants: probably old and large fish, like the larger carnivorous beasts, the lion, the tiger, rest by day and then sleep; we know that night is their principal feeding time.

**AMICUS.** What are their social propensities? Considering the voracity of the trout, as you have described it, I suppose I am right in concluding that it is a solitary fish, and that, except when under the influence of the sexual feeling, it never pairs.

**PISCATOR.** Though your reasoning is specious, your conclusion is not in accordance with fact. The trout, and indeed all the Salmonidæ, seem disposed more or less to keep together, resembling in this respect more the jackall and wolf than the lion and tiger. Where one trout is seen, you will hardly fail to observe another; and in a well stocked river, small companies of them are of common occurrence. Whether attached to one another we cannot say, having no

means, that I am aware of, of testing their feelings; but it at least seems pretty certain that they are attached to places, as well as that they are in some measure affected in their forms and colouring by local peculiarities of water or ground. In a single day's fishing of the same river or lake you may have proof as satisfactory of this, as, in passing through Piedmont,—comparing the healthy and robust peasantry of the higher Alps with the dwarfed and often diseased inhabitants of the deep secluded valleys,—of the influence of local physical peculiarities in the human race. Where the water is deep and the bottom dark, you commonly meet with dark ill-conditioned fish; where of moderate depth, or shallow, with a bright sandy bottom, with fish of vivid colours, well formed and fed, beautiful to look at and excellent for the table; and this for a constancy, as if neither kind were given to wandering.

AMICUS. I thank you for the information you have given me. And now, having excited my curiosity and removed my scruples, and in a manner prepared me for entering your craft, pray do me another favour, allow me to be your companion in some fishing excursion,—one of those you indulge yourself in for recreation and



health;—and it will be the more agreeable to me if distant, so as to combine the pleasure of travel in a district new to me with the interest of angling.

PISCATOR. Agreed. I shall be happy to have your company. Before the summer is over, I propose visiting Ireland. That country is, I know, new to you. Nowhere can we find so well united what you wish to enjoy. Travelling in Ireland is a perpetual amusement; so much that meets the eye is peculiar; so different from ours are the habits of the people; so pleasing and courteous their manner; free to converse, ready witted; and the fishing, such as I hope to introduce you to, of a very encouraging kind, well fitted to confirm the taste for the art where there is the innate disposition requisite to cultivate and succeed in it. I shall take you to a wild district; and we shall have to rough it,—which, I think, in your case will rather add to than diminish the pleasure. Two, when sure of agreeing, are the proper number for excursions of the kind; a larger party may have difficulty in finding accommodation in the small country inns, or in finding conveyances, or even where a boat is necessary, finding a second, should there be one available for fishing.



## COLLOQUY IV.

*White-trout fishing. Derryclare Lake,  
Connemara.*

AMICUS.



**T**HIS is charming! How beautiful the lake with its many islets, and these wooded, contrasted with the green and winding shores, and those noble hills and mountains encircling it like a frame—a frame worthy the picture. Here is some compensation for the short-comings as to beauty in the greater part of the district through which we have hitherto passed, so desolate and woodless; and also for our toilsome walk over the bog, which, though almost a flat surface of swamp, our boatmen are pleased to call mountain.

PISCATOR. The word in Galway is used to express unreclaimed land, irrespective of eleva-

tion. Many other words in Ireland are employed in a sense different from that which they bear in England. This should be remembered in criticising Irish bulls. I join with you in your admiration of this lake. It is, I think, in picturesque effect deserving of all praise. The heath-clad hills which immediately rise from its shores, those middle distances, are forms of beauty, not less than the bosky islets adorning its length and breadth; and the mountains which rise rapidly, towering grandly in their nakedness above the hills, are the finest of the whole group of Bennabeola, "The Twelve Pins," as they are called, of Connemara. When you see more of this lake, I am sure you will admire it even more. It is one of the many Ballinahinch lakes, all nearly at the same level, and so curiously connected by small sluggish streams, most of them hardly wide enough to allow a boat to pass, but presenting no obstacle to the passage of fish, with which they are all well stocked, especially the white-trout. This, the white-trout, is the *salmo trutta* of the naturalist; a migratory species, which, like the salmon, passes to and from the sea at stated periods, and no doubt with a well marked intent.

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It is this fish which will be our principal sport here; and as the season and weather are favourable—this being the second week in July, and after heavy rains, we may fairly calculate, as regards sport too, on having compensation. The boatmen know the best runs of the fish, and we shall soon be on them. Make ready your tackle.

AMICUS. Instruct me in the selection from what I laid in in Dublin, from those great magazines of fishing gear, the fishing-tackle shops, the mere sight of which in their riches, gave me a high and somewhat alarming idea of the art and its requirements.

PISCATOR. The choice is easily made. Your medium-sized rod, which you can use with one hand, but is better managed with two, is well fitted for this fish. Your casting-line should be of moderate strength, such as this, which with a little yielding and play, will not break in any struggle, however heavy the fish you may encounter, unless it be a salmon; and even a salmon, which by chance may be hooked,—for there are salmon in the lake,—with skill and patience may be mastered by it. As to flies, do not use more than two. Try these: they belong to the class of fancy flies, not being imitations of any

natural flies. The white-trout is not fastidious ; if he shows any preference, it is I think for the coarser kinds, such as are used by the native fishermen, and essentially fancy flies. This is a specimen. I had it from an experienced old fisherman of the district, who restricted himself throughout the season to it and to two others not differing much from it, and who laughed at the luxury of gentlemen anglers with their fly-book full of flies of almost endless variety of forms and colours. What marks his favourite fly, as you see, is a coarse body of mixed dubbing, ribbed with gold tinsel or twist, wings of mixed feathers, chiefly of the wild drake and golden pheasant (the neck feather), with a tail of two or three fibres from the same feather, that of the golden pheasant, on a hook a little under an inch in length. Remain where you are at the stern, I will take my place at the bow, so we shall not interfere. The boatmen are now resting on their oars, a sign, is it not, my " boys," that we may commence ?

AMICUS. This, indeed, is sport ! You have already taken three fish ; and judging from their size, they cannot be short of two or three pounds weight each.

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PISCATOR. You overrate their weight, as is commonly done by the inexperienced. The largest, trust me, is under two pounds, and the smallest not more than one. Boatman, try their weight by our convenient weighing implement. See, the first is an ounce under two pounds, and the second barely a pound. They are well fed fish, and fresh run, as their bright silvery scale denotes. We cannot have better for the pot or the live coal; that is, for boiling or broiling. In these lakes the white-trout is not often taken larger than our largest. Most commonly they run between one and two pounds; the largest I have taken has not exceeded three pounds.

AMICUS. We are getting amongst the rushes. What opening is that? Is it the outflowing stream?

PISCATOR. It is; and within two or three hundred yards is the head of the lower lake, that of Ballinahinch, the first of the chain; the river in its short course connects the two. Boatmen, it is time to change our ground. Here there is too little wind—too little curl of the water. See, yonder, there is more ripple to the windward of the nearest islet, and if I recollect rightly, when here before, that spot was a good

run. Whilst moving I shall change my flies ; substituting, as a tail one, a fly probably never used here before, a brown Palmer. I like to make experiments in fly-fishing, and I fancy it will be for your edification. Here, boatman, what think you of this fly ? Well, though you condemn it, as good-for-nothing in this lake, it shall have a trial.

AMICUS. You were right as to your good opinion of this spot. The fish are rising and taking better than ever ; and already your condemned fly has done execution.

PISCATOR. So it has, and I hope will do more. Let this convince you that you must not put too much trust in local authorities ; who naturally have most faith in the efficacy of flies they are in the habit of using, distrusting all others.

AMICUS. How troublesome are the small trout ; these " brown-trout "—as the boatmen call them—hardly worth the trouble of using the landing-net, and certainly not worth the trouble of catching.

PISCATOR. They interfere with nobler sport, and so are despised, in the same manner as white-trout by the angler for salmon. Were

you fishing for brook-trout, such as these, the largest, of about a quarter of a pound, would be held in estimation. They afford another example of the little discrimination observed by fish as to the quality of the artificial fly,—these small fish rising at and taking such large flies, so totally different from natural flies, and so very different from the kind the angler would use were he fishing a stream for the common trout.

The sun is now high, and the wind failing. If you please, we will rest for a while. From twelve o'clock to three is a dull time for the angler, when there is least chance of sport, the fish then seeming least disposed to feed. Boatmen, take us to that pretty island, on which we will land, and you shall give us an example of your cooking skill, and my friend here a taste of white-trout dressed on the live coals.

AMICUS. I saw no basket brought to the boat,—no knives, forks or plates; no preparations for a pic-nic. How shall we manage?

PISCATOR. Trust me, well; and in a way (this charming islet reminds me of it) as primitive as that of our first parents before knives and forks were invented. The first thing to be



done is to collect sticks, and we must have a good supply. I have lucifers; and I dare say our boatmen, one or other of them, has a bit of rag, of soft old linen, fit for kindling a flame.

AMICUS. Why the old linen? Would not dry leaves answer the purpose?

PISCATOR. Hardly. I have seen them fail, when with the bit of linen there has been no failure. The dry soft linen serves as tinder, and, wrapped in leaves or dry grass, retains the spark till incited into a blaze by blowing on it or waving it in the wind. Remember, the kindling of a flame is a nice operation! I do not speak metaphorically.

AMICUS. What a glorious fire; almost large enough to dress a sheep, as I have seen it done on the shores of the Black Sea. I see the fish are prepared: when are we to begin the roasting process?

PISCATOR. Be patient. We must be rid of flame and smoke before we begin. Now is the time. Boatmen, lay the trout on the glowing embers, and turn them nicely. Dressed quickly, and well dressed, we shall find them excellent, short and crisp, the curd in them.

AMICUS. They are really good; and I find I

can manage well with my fingers, as I have done of old amongst Asiatics. The burnt skin separates readily like the paper from a cutlet; and the delicate substratum separates readily from the bone.

PISCATOR. Now we will wash our hands and take our rest, whilst the boatmen make their meal. The material, thanks to our sport, is ample, and they will do it justice. Reclining where we are, a little to leeward of the fire, we shall escape the torment of gnats, which at this season here are somewhat troublesome.

AMICUS. I like this recurrence to nature; this best part of wild life; this catering and cooking for ourselves, and in the most agreeable manner, and under the most agreeable circumstances. You have done well thus to initiate me in your favourite art.

PISCATOR. The wind is freshening, and we are refreshed; our boatmen have finished their meal and smoked their pipes: so let us turn again to our sport. We will proceed towards the upper end of the lake, where there are some runs almost equal in goodness to those at which we commenced at the opposite extremity. As you saw the river flowing out, so thus you will

have an opportunity of seeing that flowing in, and connecting Derryclare Lake with Lough Inagh. Both of them are fine streams, rough and rapid, but not good fishing streams, none but common river trout, the brown-trout and the fry of the salmon and white-trout, making them their abiding-place. This it is well to know, as their appearance is promising. The white-trout and salmon seem to use them only in travelling, as highways, and to get through them as quickly as possible.

AMICUS. As we proceed, the beauty of the lake is such that I feel greater inclination to sit and admire it in detail than to fish. I have counted at least twenty islets, and every one dressed in native wood, holly, oak and birch, with a rich undergrowth of varied heaths and that lovely one, the purple bell-shaped,\* which I have seen only in Connemara. What a contrast are these umbrageous islands to the woodless shores and more naked surrounding mountains! What is the cause? The soil seems the same, and the rocks the same.

PISCATOR. The cause is a simple one. On

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\* *A. Daboecia* (*D. Menzicia*?)

these islets there is wood, because there are no sheep or cattle on them to prevent its growth, as on the adjoining hills; and, there being abundance of peat for fuel within the easy reach of the few scattered inhabitants of the district, it is not worth their while to cross the water in quest of fire wood, especially as they find wood of a larger growth in their bogs—bogwood—the relics of ancient primeval forests, splinters of which, from its bituminous quality, burning with a bright flame, they often use instead of candles.

AMICUS. I look around for a human dwelling: not one can my eye rest on; or any object denoting the presence of man. A more perfect solitude I never saw. One might fancy oneself in an uninhabited country. Not even on the hill sides can I distinguish a single head of cattle.

PISCATOR. Before the late famine there was no want of cattle on these hills; and soon, I doubt not, cattle and sheep will be seen here again; and the scene will have, as it ought, a pastoral character. Though no cottage is in sight, there is one near. Boatmen, make for and turn that point.

AMICUS. I am taken by surprise! What a charming spot we are suddenly come on! How beautiful that hanging wood, reflected from the still water, the branches actually dipping into the lake! And is there not a house on the bank above? I see something like a roof and chimney and ascending smoke.

PISCATOR. You are not mistaken. It is a cottage, and a comfortable one, and inhabited by an honest man, who is glad to have anglers for his lodgers, and sure to make them comfortable. We will land and go up to it. Push, boatmen, for the landing-place—that rock. There, there is a little flight of stone steps almost hid in the luxuriant growth of weeds. Follow me.

AMICUS. What a nice fishing-lodge; matted throughout, roof, floor and walls. Who would expect so much comfort in such a wilderness? I see there are four small bed-rooms, off a good-sized central sitting-room. An excellent arrangement, and the kitchen apart.

PISCATOR. It is a good arrangement, and a common one for fishing and shooting lodges in Ireland. This, I believe, was built by the late Mr. Martin, the last of the family in possession

of the great Martin estate, now the property of a Law Insurance Company—a strange transfer! The boast of the former proprietor was, that he could set law at defiance; and it was not a vain one in his wide territory under his almost absolute rule. The history of this possession, how obtained, how lost, I may relate to you at leisure: there is a Nemesis in it, painful and instructive. The matting which you so much approve, and which is so suitable, is the manufacture of Connemara. It is made of rushes, which are the common growth of the lakes of the district. The manufacture is a simple domestic one. The rushes, in the winter evenings and in rainy days, are plaited by the hand, and the plaits sewed together in breadths, in which they are sold at so much a yard. Nor is this the only use that is made of the rush. Rush-lights are the universal candles of the district. Their manufacture, too, is of the simplest. I once witnessed it; it was on the shore of one of the Ballinahinch lakes, Lough Oured, about six or seven miles from hence, and in the cabin of the “herd,” or, as we should say in England, herdsman, where, when fishing and thirsty, I landed to get a draught of milk and water. Finding

the man and his family civil, and how rarely are Irish peasants otherwise, I availed myself of the opportunity to look well into an Irish cabin, in its primitive state of rudeness, such as this appeared to be—walls of peat, roof of turf, and floor of earth, hardly levelled. The sleeping room was within the outer one, where the family were assembled round a good peat fire. Permitted to indulge my curiosity even to looking into it, I was baffled, on entering, by the darkness. The room had only one small window, and this was closed by a stone; but even when the stone was removed, the light admitted was too scant to distinguish objects. In this strait what could I do but ask for a candle, if there were one. “Oh, yes,” was the instant reply; “you shall have it presently.” The daughter, a handsome girl, just entering her teens, forthwith ran out, and quickly returned with a bundle of rushes she had gathered green. One was taken by the boatman, who accompanied and introduced me. He set to work and peeled off part of the rind, leaving just sufficient to support the pith. Whilst so doing, the mother put on the fire a fragment of an old iron crock, and in it a lump of butter. When the butter

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of crackle, all the  
 the daughter was  
 the rush to dip it into the  
 and this done, the rush-light  
 After exploring the sleeping room,  
 I found a bed—I will not describe it—  
 the whole family, the husband, who  
 was sitting by the fire, his dog at his feet, his  
 youngest boy between his knees, took the light  
 and placed it in its proper support. This was  
 an iron stand with holes in it, through one of  
 which the saturated rush was inserted obliquely,  
 at an angle well determined so as to graduate  
 its rate of burning and giving light within the  
 limits of a severe economy.

AMICUS. What you relate reminds me of the  
 olden use, and a ruder one, of the rush in Eng-  
 land. Is it not Erasmus who describes the floors  
 of palaces, and even of royalty, as strewed with  
 rushes, when he visited London in the time of  
 Henry VIII. and these not over-clean?

PISCATOR. The usage still lingers in some  
 parts of England, especially in the Lake District.  
 It is only a few years since the strewing of  
 rushes was discontinued in the old parish church  
 of Grasmere; and still the custom, the rush-



bearing, is annually commemorated both at Grasmere and Ambleside by a procession of children bearing garlands made of flowers and rushes. The church named, you may like to know, was the pattern of the one described by the great poet of our times in "The Excursion." There is his monument, the tribute of friends and admirers, near and distant, even across the Atlantic; and in the churchyard his grave—a spot of beauty a poet might well choose to make his resting-place. Even now, the rush candle is continued in use, as in Connemara, in some of the secluded dales of the Lake District, and a stand not unlike that of the Irish cabin, but of nicer workmanship and of well polished iron, is to be seen in many a farm-house. In my praise of angling, I might have added this—that it not only takes one to the wilder and more secluded scenes of nature, but also makes one acquainted with old and expiring habits and usages, and still more with existing habits and modes of life of the people, especially of the labouring class. For instance, to give you an example, at the same time I saw the rush-light made, I learned how the herd was paid and his circumstances, recalling to me a like mode of payment for

labour which I had witnessed in our West India colonies since emancipation, and which had led to some of the distresses of the planters, viz. the substituting, for money wages, an allowance of land: so here in Connemara, the herd, for his care of the farmer's cattle, was allowed to keep as much stock as he could get and till—grow potatoes in as much ground as he was able, with the aid of his family, neither paying rent for his cabin, or receiving a farthing in money for his labour. He had a flock of twenty-five goats, which browsed at large; and, before the famine period he had, besides, two or three head of cattle, which during that time of distress he lost; they were killed, by the starving inhabitants, he knew not by which. Much of the little knowledge I have of Ireland and its peasantry has been collected in fishing excursions. The angler is met without suspicion. His rod is the wand of peace. There is a sympathy between him and the peasant. He is not an intruder in his cottage, or a trespasser on his potatoe plot. Whilst resting by his open hearth, or refreshing himself with a repast of fish just taken by his skill, dressed on that hearth, he converses freely with the inmates, is told of their hard lot under

perhaps a grinding landlord, or of their hopes of a more prosperous condition across the Atlantic. The almost rebel will disclose his mind to you ; the timid girl will gradually open her's, and tell you, perhaps, how she is preparing to join a brother or sister in Canada or the far West, and how, by a remittance from thence, she is able to do so. A stranger, not an angler, exploring the country merely for the sake of collecting information, would be considered an impertinent, or probably worse, a gauger. Before we take to our boat, and have a little more fishing, I could wish you to see the garden, that you may have some notion of what the country is capable of, were it cultivated.

AMICUS. Why, here are apple trees, and currant and gooseberry bushes, with fruit on them, the first and the only ones I have seen in these wilds !

PISCATOR. In many places even in this wildest part of Connemara the soil is good, and with ordinary care might be made productive, as the rankness of the wild vegetation affords proof. The climate is mild and wholesome, very like that of Cornwall, similarly exposed to the western breezes and storms from the Atlantic, and

almost as far south. Not in its wildness, but in its picturesque character this district, I think, has been overpraised. But were it cultivated and planted after the manner of our English Lake District, then, I am sure, it would be deserving of all praise. As in that charming district, which in many of its natural features this resembles, we should then see the happy blending of skilled art with wild nature—the ornamented pleasure ground skirting the upland fell,—the pretty villa, the neat cottage, the substantial farm house—conveying ideas of human comfort and happiness; so contrasted with what we witness here, especially since the famine period,—unroofed cottages and farm houses, at least two-thirds of the whole; few even of those roofed and inhabited not out of repair; neglected or ill cultivated fields, with broken fences, too often overgrown with weeds, and a ragged people;—in brief, objects, with few exceptions, and those natural objects untouched by the hand of man, conveying nothing but a sentiment of poverty, woe and suffering. Now let us take to our boat, and resume our fishing. As we proceed I can give you some additional anecdotes of the sad past.

AMICUS. What a change has occurred! Your flies, which, not long ago seemed to exercise a charm, are now neglected. Not a fish has risen during the last ten minutes. Had you not assured me that they are obtuse of hearing, I should have fancied that they had fled, shocked at the sad tale of distress you have just been giving.

PISCATOR. The fish not rising, is a warning to stop. We will land, and quietly wend homeward, that is, to our inn—the pleasantly named “*Recess*,”—where we shall not have to wait long for our late dinner. The change we have seen, from great activity in feeding to total dulness, is not unusual, and is a circumstance to try the patience and temper of the angler. The cause probably is the state of the atmosphere, and it may be its electrical state, affecting the water by induction, and of which the fish may be unpleasantly conscious by a sense, that before alluded to, which it has been conjectured may be peculiar to them. Clouds are gathering; the wind has changed; a few drops of rain have fallen, and those large drops, such as accompany thunder. It is a common remark of fishermen,

“ That there is no sport when there is thunder in the air.”

AMICUS. I am well contented to stop. This our first day's sport, has exceeded what I expected, especially my share of it. It is true, I have lost some flies, and have hooked more fish than I have caught; but I have caught some, and gained some experience, and according to the old adage, the truth of which I hope you will admit, “ Practice makes perfect,” or were it not for alliteration so necessary in the proverb, I would say expert.



## COLLOQUY V.

*White-trout fishing continued—Lough Inagh.*

AMICUS.



Do you inform me that we have a distance of at least two miles to walk from our inn here at the Recess to our new fishing ground, Lough Inagh, pray indulge me by the way with some particulars of the natural history of the white-trout; and, first tell me how it is distinguished from the common, the brown-trout.

PISCATOR. Willingly; for to me it appears that it is only by combining natural history with angling that a permanent interest can be retained in the latter, not forgetting the adjuncts of exercise, scenery and nature.

As to the distinctive marks of the fish, comparing the white and brown trout, they principally consist in difference of colour, form of body

and size of teeth. The teeth in the former are smaller, the form of body more graceful, the colour whiter and more silvery. The white-trout is quicker in its movements, more active and vivacious, makes a greater struggle when hooked, and consequently, by a greater exhibition of power, affords more sport to the angler; he, the angler, in the contention, ignoring, and that I believe truly, all idea of suffering on the part of the fish. This postulate seems essential to the enjoyment of all sports, whether of river or field. In its habits the white-trout more resembles the salmon than the common trout; and in some parts of England, in consequence, it is not inaptly called the salmon-trout. It is, like the salmon, essentially a migratory fish, breeding in fresh water, refreshing itself and getting into condition in the sea. It leaves the sea in greatest numbers in the height of summer, especially in July, commonly a rainy month, when the rivers are in flood and favourable to the ascent of the fish. Its place of resort and abiding-place is rather the lake than the river. Commonly it passes through the connecting river rapidly, and leaves the lake for the smaller streams only for breeding. The spawning pe-



riod is the winter months, commencing about November. Its time of return to the sea is in the latter end of winter and the beginning of spring, in February and March. It is in highest condition when fresh from the sea; in its worst, when returning to the sea. In the latter instance it is comparatively lank and feeble,—no longer a delicacy, its flesh pale and colourless, soft and insipid, not a tinge of red remaining. To have good sport, the angler should not fish for it before July, unless indeed there have been heavy rains in the preceding month, which are then unusual. In July, August and September, whether in Ireland, Scotland, England or Wales, wherever this fish is found in plenty, the best success may be calculated on,—but of course depending on a variety of circumstances, such as the weather, the state of water and the run of fish, all variable and uncertain. Even in October, in the lakes of this district, there is in some years good white-trout fishing. The late fish are commonly the largest.

AMICUS. Having the habits of the salmon, is it a companion of that fish? Is it found in the same waters?

PISCATOR. In some instances it is, but not in all. The white-trout and salmon in large numbers enter the Ballinahinch river; the salmon passing through the first and second lake, Ballinahinch and Derryclare, collect in Lough Inagh, and principally in its upper portion, where the river, the main feeder of the lake, and in which the salmon make their spawning-beds, enters. To these three lakes of the group, the salmon, I believe, confines itself:—but not so the white-trout; it is found in all of them, and in plenty, though probably in greatest plenty in the three that have been named. I could mention some other examples of waters common to the salmon and white-trout, such as the Crawley river in Donegal, and the Clany river adjoining, and the three lakes in connexion, from which it issues, situated at the foot of that grand weather-beaten hill, Arigal; such as the river Moy, in Mayo, and Lough Conn, the great feeder of that river. Instances, however, of the contrary, of the two kinds of fish not occurring in the same water, are, I believe, even more common. The following are notable of the kind: the Lakes of Killarney, a great resort of salmon, and abounding in brown-trout, but without white-trout;

Lough Melvil, the same, where the gillaroo is found in company with the salmon; the river Erne, celebrated for its salmon fishery at Ballyshannon, and Lough Erne, whence it flows, for its large brown-trout, but sparingly frequented by white-trout.

AMICUS. Can you assign any reason for what you have described?

PISCATOR. I cannot; nor have I heard any satisfactory one assigned. Were one or two instances only considered, then a probable cause might be suggested; but extending the view to more, to the greater number, it would not hold good. I believe, at present, we must rest satisfied with the facts, and admit that all the attempts made to explain them are founded on mere assumption, such as a difference in the quality of the water, which has to be proved,—differences as to facility of access, &c. which in most instances do not exist. The rationale of the habitats of plants and animals, taking the largest view of the subject, is involved in obscurity. We are sure of a few points, and these for practical purposes are worth keeping in mind. And, first and main, that no animal or plant, however introduced, will maintain its

place, and increase in numbers, unless under circumstances favourable and suitable to its nature. And next, in the case of migratory animals,—such as the fish we are speaking of,—that they are prone to return to the spots where they have been born and bred. This last fact, I need not insist, is the important practical one. Were it acted on, it is probable that many waters now without salmon or white-trout, might, were they once introduced, become the constant resort of one or both of them, and thereby sources of profit to their proprietors and of benefit to the country.

AMICUS. I know analogies in favour of your argument, especially in the vegetable kingdom. We have seen together those two noble larches at Dunkeld, the first which were brought to Scotland from the Apennines. These, you know, would have perished, had they not, when apparently dead, been cast out of the hot-house in which they had been injudiciously planted, into the open air, where, exposed to the cool breezes, they revived, took root, and flourished, to the no small surprise and delight of the gardener. How little could he then have anticipated that in less than a century the higher hills around

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would be covered with forests of this tree, and ships of war be built of its wood. Wherever we go, where civilization has extended, and horticulture with wood craft, one of its best marks, have been attended to, have we not similar examples? There was a time when the South of Europe was without the orange and lemon;—the West Indies, and that recently, was without the bread-fruit tree; when England, so rich in varied fruits, had scarcely any other than the crab and the sloe!

PISCATOR. Instances, happily, are not wanting, even more to the point, in the animal kingdom. How very many of the several kinds of fish known in our English waters have been brought from abroad. We can speak with tolerable certainty concerning some, as the pike and the grayling; indeed, with the exception of the Salmonidæ, it is probable that the greater number have been so obtained. Our great benefactors in this matter were our Roman Catholic forefathers, to whom, on account of their fasts,—a diet of fish being strangely connected with the term,—we are chiefly indebted for the introduction of so great a variety. Now that attention is becoming again more directed to

the subject,—but for the feast rather than the fast, and with more reason,—we may hope that their example will be followed, and that we shall soon have fresh proof in support of our argument. One interesting fact bearing on it I cannot refrain from mentioning, viz. how rivers in which salmon had never appeared in the memory of man are now well stocked with that fish in their season, and this in consequence of the ova of the salmon having been brought and hatched in them, the young fish, in obedience to their instinct, returning from the sea to their native streams, and multiplying by breeding in them. This successful experiment was made so recently as 1836, and is detailed in Mr. Andrew Young's valuable "History of the Salmon," published in 1854. We are now near our lake, and must break off our conversation. Whilst the boatmen go for their oars, which are kept hard by, we must do our best to get over this piece of shaking bog,—where, unfortunately, the good road, made during the famine-period, suddenly terminates. Had it been continued,—and you see there is plenty of stone broken for the purpose,—it would have shortened the distance to Kylmore about thirty miles, and have brought

an interesting and picturesque tract of country along the shores of Lough Inagh within the reach of the tourist. Take care where you put your foot. Look for the rushes; for you may trust the old saying, "where the rush grows, man may tread."

AMICUS. I am over, but I cannot say well over the quagmire; for, notwithstanding your advice, bunches of rushes failing, I have got over my ankles in mud. It would be a proper punishment for the jobbers, who stopped the useful work here and made it useless, to be doomed to spend the remainder of their lives in crossing and recrossing this worse than puddle. Is that a farmhouse I see on the side of the hill in the direction our boatmen are gone?

PISCATOR. It is, and one well known to sportsmen. It is Joyce's, where, in a rough way, many a one has put up, to enjoy the fishing on the lake and the shooting on the moor. Should we, as I hope we may, make it our resting-place, not long hence, we must remember that all we can calculate on finding are beds and shelter, a good peat fire, and plenty of milk; meat, bread, and the *et cætera* of the table we must bring with us, or have brought

to us. The occupier rents a large tract, the property of Trinity College, Dublin,—a tract almost in a state of nature and of little value, except for its coarse pasture. See, the boatmen are approaching, and we are on the shore of the lake. Put together your rod. As the breeze is fresher than it was yesterday and the water rougher and commonly deeper, I would recommend the changing of your flies, and substituting larger and somewhat brighter. As we shall have a chance of a salmon, as a tail-fly I shall use a small salmon-fly.

AMICUS. Now we are afloat and well off the shore, how fine is the view that is opening out. How charming that wooded island on a larger scale and with trees of larger growth than any we saw in the neighbouring lake! How magnificent that mountain, with its naked projecting spurs and buttresses breasted by clouds!

PISCATOR. We are in the wildest and grandest region of this wild country. That mountain which you admire is Bencorr, the highest of the Twelve Pins, and estimated at about 2330 feet in perpendicular height. In its effect on the mind it is a good example of the little importance of absolute height. Though so comparatively



low, yet from its form and its accompaniments, —those clouds gliding along its summit and all but hiding it,—that torrent rushing down its side,—that deep corry partially seen on its flank, —give it a character almost Alpine.

AMICUS. What a remarkable appearance has that shoulder of the mountain which we see in the distance towards the upper end of the lake! I can fancy that I see an encampment there.

PISCATOR. Those white objects, not unlike tents, are great masses of quartz: that hill, so singular in its appearance, an offset of Bencorr, has many a superstition connected with it, arising perhaps from its variable aspect,—varying according to the time of day and state of the atmosphere, like one in the vale of St. John, the scene of Scott's romantic poem, the "Bridal of Triermain." To recur to our white-trout: that small stream which you see entering the lake is the resort of these fish for breeding, and exclusively so. We are now on good fishing ground, and here let us begin. We can converse as we fish, one of the advantages of boat-fishing.

AMICUS. In your account of the white-trout, you did not tell me on what it feeds.

PISCATOR. In the sea it probably feeds on shrimps and other minute crustacea—there, as already remarked, getting into high condition. After entering fresh water, it appears to be a little eater and delicate. I have opened very many, and have commonly found the stomach empty and collapsed, or containing only a few small flies. We have a half dozen fish now in our pannier; now there is a lull, and we are on our way towards the head of the lake, we cannot do better than open them. What you observe yourself will be most satisfactory.

AMICUS. It is as you have said. Only in one have I detected a few flies, and these small black ones. The ovaries in more than one I have found advanced, the ova pretty large.


PISCATOR. They are nearly half their full size. From such observations as I have made, I cannot but conclude that the growth of the ova is principally accomplished in fresh water, and that their substance, into which oil largely enters, is derived chiefly from the fish, its good condition acquired in the sea, allowing of the expenditure. We are nearing the head of the lake, the favourite resort of salmon, and where I had hoped we should have caught a salmon;

but the wind, the treacherous wind, has failed us. There the river enters the lake, flowing sluggishly through the moorland valley. This is the river in which the salmon breed. We will land and fish it up a little way. We shall probably get some brown-trout and some salmon-fry. You will have an opportunity of seeing the beds of gravel in the shallows of the stream where the salmon spawn; and when you have satisfied your curiosity we will take with us one of our boatmen and go to Kylmore, a distance not exceeding four miles. There we may get some fishing. The adjoining lakes of the same name are reported to abound—a very doubtful word—in both salmon and white-trout; at all events, we shall be sure of tolerably comfortable quarters under the roof of the reverend occupier of the inn, the only house that affords accommodation to travellers, and that indeed a solitary one. I took the precaution to have our carpet-bags sent by a horse and man in the morning.

AMICUS. The gravel of this river, I perceive, is unusually red, as if stained by ochre, whilst the stones and rocks on most parts of the shore of the lake, where washed by the water, are

almost black; and in the beds of some of the brooks flowing into the lake I have noticed the same hue, but with more lustre. On what do these colours depend? Not, I infer, on the quality of rock; that, as well as I can judge from the fracture, being of one and the same kind hereabout.

PISCATOR. You are right, I believe, as to the rock. From some chemical trials I have made, it would appear that the red hue is a stain occasioned by the peroxide of iron; the glistening black also a stain, and produced by incrusting peroxide of manganese, and the dull black, that which you noticed on the shore of the lake, by a minute vegetation of the *Algæ* family more or less in a state of decay. Particles of the same kind are probably suspended in the water of this and the neighbouring lake, for our lines as you may perceive are, where they have been most wetted, dyed grey. Wherever you observe the same colours—if not the colours of the rocks of the country—I think I may with confidence say, they are owing to the causes I have assigned. Iron and manganese in the state of oxide, remember, are the chief colouring matter in inorganic nature. On them mainly de-



pend the varied and rich hues so effective in landscape, whether witnessed in the ploughed field, the mountain precipice, the old cathedral or ruined castle.

AMICUS. Now we are on the road, if this track deserves the name, which is barely passable and barely distinguishable in places from the bog and moor, allow me to ask a question about fish as diet. Speaking of our Roman Catholic forefathers and their fasts,—they fasting on fish,—you seemed to hold it incongruous. Tell me, is there not a warrant for it in the circumstance that fish as food affords but little nourishment?

PISCATOR. This is a subject on which I have made some experiments, the results of which go far to prove that there is much nourishment in fish, little less than in butcher's meat, weight for weight;—and in effect it may be more nourishing, considering how, from its softer fibre, fish is more easily digested. Moreover, there is, I find in fish, in sea fish, a substance which does not exist in the flesh of land animals, viz. iodine: a substance which may have a beneficial effect on the health, and tend to prevent the production of scrofulous and tuber-

cular disease, the latter, in the form of pulmonary consumption, one of the most cruel and fatal with which civilized society, and the highly educated and refined, are afflicted. Comparative trials prove that in the majority of fish the proportion of solid matter, that is, the matter which remains after perfect desiccation, or the expulsion of the aqueous part, is little inferior to that of the several kinds of butcher's meat, game or poultry. And, if we give our attention to classes of people—classed as to quality of food they principally subsist on,—we find that the ichthyophagous class are especially strong, healthy and prolific. In no class than that of fishers do we see larger families, handsomer women, or more robust and active men, or a greater exemption from the maladies just alluded to.

AMICUS. May not other circumstances be concerned in rendering them so healthy, such as an unstinted diet, the sea air, and the living so much in the open air?

PISCATOR. These circumstances may contribute to the beneficial effect; but are not, I think, by themselves sufficient to account for the effect. There are facts of a corroborative

kind; such as the well-ascertained efficacy of cod-liver oil—an oil containing iodine—in arresting the progress of consumption; the efficacy of the same substance in relieving or curing some other chronic ailments, especially bronchocele; and the virtue of fish-diet,—of raw fish,—as employed in Siberia and in Holland, in the treatment of many chronic complaints resisting ordinary medical treatment, of which there are well authenticated accounts. In early periods of the world, legislators have thought it necessary to make regulations on the subject of diet, enforcing their restrictions by religious injunctions. The ruder a people, the more ignorant, the more careless they commonly are, and the less fastidious in their dietary. In Eastern nations, in warm climates, most of the coarse feeding animals, especially swine, were prohibited, and as much so by the Mahommedan as the Mosaical law, on the idea probably that their flesh is unwholesome. So amongst the earlier Christians, when the restrictions as to meats were withdrawn,—when none were pronounced to be unclean and defiling,—the Church, with a view to the health of the people, might think it right to institute their so-called

fasts,—days on which fish was allowed. And if in Italy, especially in Rome, we visit the markets and see what is there sold and is in request as food, such as cakes of blood, owls, hawks, crows, &c. of very doubtful fitness, we shall not, I think, be surprised at the adoption of fish-fasts, or have difficulty in giving credit to them as usefully instituted as regards the health of the people.

AMICUS. I am pleased with this your explanation of the fasts of the Church of Rome, and am of opinion, if your doctrine as to fish-diet be sound, that we Protestants have made a mistake in abrogating fast, *i. e.* fish-days. What you have said excites my curiosity, and makes me inquisitive. Allow me to ask, is there any material difference in the qualities of fish, viewed as articles of food?

PISCATOR. Unquestionably there is, and of a kind deserving of attention; indeed, I am confident, of more attention than has yet been paid to the subject. Now, as we walk along, I can only allude to the more striking points. First, comparing fresh-water and salt-water fish, there is, according to my trials, this well-marked difference—the absence in the former of iodine. In



the migratory fish, the salmon and white-trout, a trace of iodine may be detected when they first come from the sea, and when they are fittest for the food of man, which disappears after a while, and that with their deterioration. Owing to the presence of iodine in sea-fish, I think we may conclude that, on the whole, the preference is to be given to them. As to individual species, whether of sea-fish or of fresh-water, there are notable differences and peculiarities, some depending on the species, some on the qualities of the feed. Of the first we have instances almost without number, inasmuch as almost each kind has some distinctive peculiarity. The delicate smelt has the odour of the cucumber; the grayling, of the thyme; some of those of the scomber family abound in blood, have a comparatively high temperature, and dark-coloured muscles; others, as those of the Gadidæ, of which group the whiting is one, have little blood, at least few red corpuscles, have white muscles, and are delicately tasted; some, as the common ray, and most of the order of cartilaginous fish, have a muscular fibre of much firmness and power of resistance, yielding and becoming tender from keeping, and consequently,

contrary to the general rule applicable to fish, they should not be dressed fresh; and other differences might be pointed out,—one kind abounding in oil, as the pilchard, herring and eel; the eel especially, and so luscious in consequence,—other kinds containing little or no oil, as the sole and ray. Of the influence of feed on the same kind of fish we have striking examples both in many salt-water and fresh-water species. Of the former, how different in quality is the herring caught off different parts of the coast; so too of the common haddock. What herring is equal to that of Loch Fine? What haddock equal to that of the Bay of Dublin? Of fresh-water fish, what a contrast there is between the lake-trout and the brook-trout!—The one well fed, well flavoured, of the colour of the salmon, and sometimes attaining the size of the salmon; the other small, colourless, and insipid. What a contrast between either of these and the trout of bogwater; the latter, black, soft, ill formed and ill tasted. What a contrast, again, between the trout inhabiting a stream in a fertile limestone district, fed by springs, fluctuating little, and the dwellers of the mountain stream in a primitive

country, subject to great fluctuations—one day a raging torrent, in a brief space run out and all but dried up. As with other animals, whether beast or bird, domestic or wild, much, we know, as to their quality, depends on their feed, its kind and quantity; and so with fish. Of these, the paradoxical sturgeon may be mentioned as another and very striking example; by the Norwegians, we are informed by Block, it is even designated after the fish on which, from its flavour, it is supposed to have fed,—as the mackerel-sturgeon, herring-sturgeon, &c. Other circumstances, besides food, no doubt, have likewise an effect,—all which anyway influence the health, such as climate, air, water, &c.; nor amongst these should age be omitted. This last, in the instance of fish, and of fish only, is little thought of at home; and it may be, because in our well fished seas, rivers and lakes, few fish are allowed to reach a very advanced age: but not so in the tropical seas, where there is not the same activity practised in the capture of fish; there, it is not uncommon to be helped at table to an old fish, and to have its hardness and toughness explained by one's experienced host by reference to age.

AMICUS. You just now called the sturgeon paradoxical. Why so?

PISCATOR. On account of its peculiarities. With its congeners, it is as it were a link between the cartilaginous and osseous fishes; and as regards the table, between fish and butchers' meat, when dressed having a close resemblance to veal. Further, though one of the most widely spread as to its habitats, ranging from the Norwegian coasts to the Mediterranean, it is so abundant in some waters as to be the food of peasants, and so rare in others as to be restricted to the tables of princes: moreover, though bred in fresh water, it traverses the ocean.

AMICUS. What a cavalcade is this which is approaching! I hope they are not Mollyguires, or any of the many denominations of the lawless executive, for which Ireland has too long been celebrated.

PISCATOR. Fear not; we are in a peaceable district, and one that has always been so. But, were it otherwise, and they whom we see advancing were of the worst description of that bad executive to which you allude, you would be respected as a stranger and an angler. The party that has startled you, are probably return-

ing from some distant market, availing themselves of a short cut, and travelling together according to their sociable disposition; and rest assured they will make the way pleasant. Ah! the nearest, I perceive, is an old acquaintance,—he with his wife riding behind him. He is an angler, and a skilful one, and a salmon fisher, and many a good salmon has he drawn from Lough Inagh, fishing from its shore. Such has been his success, that I have been assured he has made as much as £30 in a season by the fish he has sold: I mention it in proof of the excellence of the lake for this sport: but we must not forget that he is a native, well acquainted with the water, and constantly residing.

AMICUS. I am glad to see the humanity of the men. Some of them are trudging on foot, but not a single woman. Their horse equipment is curious. One of the animals, I perceive, has a halter of straw and a pad of straw.

PISCATOR. The women of this district are good women, and are kindly treated. No women are more industrious. You will seldom find them idle. Even when walking they are commonly employed, plying their needles, knit-

ting stockings. The last time I was in Connemara, which was at Flynn's, not far from hence, on a Sunday, I paid a visit to my friend the fisherman, who had been my paid companion during the week. I found him and his sons and a neighbour or two sitting round his peat fire amusing themselves with talk; otherwise they were idle. But not so the wife; she was as active with her hands as they were with their tongues, and yet not idle with that; she was occupied in peeling rushes to make rushlights. Inquiring about her domestic economy, which an incident led me to, I learnt that she was a successful rearer of poultry: I am afraid to say how many broods of chickens she had bred in one season. On each side of the hearth were cupboards. These were her breeding places. In each were two or three shelves, and on each shelf a hen. The warmth, she said, mightily favoured the successful hatching. On my praising the Irish women, the men heartily joined in, saying they were really good creatures. These people belonged to the class of small farmers, were Roman Catholics, and the head of the family, my friend the fisherman, was "a scholar,"—he was able to read and write; and I

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may add, he was a courtier, lavish in compliments, but better, also in kindnesses, and his flatteries, intended to please, were without deceit.

AMICUS. I hope the smoke I see ascending from the hill side before us betokens a dwelling and our inn, as, notwithstanding the beguilement of the time by your discourse, for which I thank you, I begin to weary; for as regards the road and country, even you, I think, must admit that both are wearisome,—are rough and wild, with little, if any, redeeming quality.

PISCATOR. Lough Inagh and Derryclare Lake have spoilt you for this flat moorland. Cheer up. That smoke denotes what you wish. Our journey will soon be ended, and to-morrow I hope you will have some compensation in the enjoyment of a good day's fishing on the lakes of Kylmore, heightened by fine weather, of which there is a promise, and the charm of scenery, which, though of a milder kind than that of Lough Inagh, yet possesses considerable beauty.



## COLLOQUY VI.

*Salmon-fishing. Ballinahinch River,  
Connemara.*

PISCATOR.



AM glad to meet you on the banks of this river. We have kept our appointment to the hour. I arrived yesterday, and have engaged a room for you at the fishing hotel, to which, after we have had a few casts, we will presently go.

AMICUS. This, then, is the Ballinahinch river. I hope we shall find it deserving of its reputation as a salmon-river. As regards appearance, it is almost all one could wish; not too wide, I presume, nor too rapid; a succession of pool and stream; and so picturesque! I left the public car at the cabin by the road-side where you directed, and a boy is bringing down my carpet-



bag. I have had a pleasant walk here, a distance, I suppose, of about three miles.

PISCATOR. Were it June instead of March you would have been more delighted; so early in the season, Connemara generally has a dreary aspect. Though the winters here are mild, vegetation is not early. You must have been impressed, as I was, by the want of verdure over the whole face of the country,—hardly a green spot being anywhere to be seen, and when seen, commonly marking the site of a ruined cabin or deserted farm-house—ruined and deserted during and since the late famine period. Hereabout, however, after you left the high road, there are some relieving features,—that pretty tarn in the deep hollow, which you passed on your right, fringed with hanging wood,—the modern and not unstately mansion of the extinct Martin family, embowered in trees of no mean growth, on your left,—the river, coming into view before you, where in full stream it makes its exit from the lake,—and the lake itself, with its many islands stretching away deviously, and losing itself in the distance amongst the hills.

AMICUS. On one of the islets, or rather as

rising out of the lake,—for so its walls appeared, —I noticed a ruined castle, which gave an air of romance to the scene. What is known of it?

PISCATOR. It bears the same name as the lake: it is called Ballinahinch Castle. Long uninhabited and a ruin, little is known respecting it. It is commonly reported to have been the stronghold—and strong it certainly was from its position—of one of the old native chiefs of the district, long before the great property called the Martin estate came into the possession of the Martin family in the time of William of Orange.

AMICUS. We have punctually kept our time, but I fear we are too early? As I came along, this was the constant reply to my inquiries.

PISCATOR. It may be so. In the summer we were assured that we could not be too early, and that to be secure of good fishing, it would be well to be on our ground as soon as possible after the first of March, when, according to law, salmon fishing commences. From what I too have learnt, I apprehend that this year we are too soon. Few fish, I hear, have yet been taken, and those with the net in Lough Inagh. Few, it is believed, have yet run up. The late

winter was severe, and that may have been the cause. But, *pazienza*, keep in mind that there is always uncertainty about fishing,—especially of the salmon and white-trout,—their arrival, though like that of the swallow, periodical, being more precarious as to exactness of time, connected as it is with more contingencies. But again I say, *pazienza*, and let me add *speranza*: if few fish are travelling upwards, the probability is that more are proceeding downwards; and the latter, though ignoble compared with the former, and when taken ought to be released, yet are sufficiently powerful and active to afford good sport; and to you, inexperienced in salmon fishing, may prove not a bad introduction nor uninstructional practice. Your rod, I perceive, is ready, as is mine. I have on trout-flies: pray follow my example. A few trout may not be a bad addition to our dinner, which, we being the first who have come to the inn for the season, I expect will be scanty.

AMICUS. Unfortunate that I am; my rod is broken at the second joint, and this a salmon-rod, and by a trout not over a quarter of a pound in weight.

PISCATOR. You were fishing with a short

line, and from a bank, and you struck too abruptly and violently; that was the cause, with, perhaps, some defect in the wood. Fortunately, I see you have a spare joint. I have a gimlet, a tool very useful to the angler in case of such accidents to a ferrule-rod, such as yours. See, by means of it I extract the broken portion. Now you are right again.

AMICUS. This morning I took the precaution of following your advice, given me on a former occasion, about oiling the joints of my rod, or, in truth, buttering them, for there being no oil at hand, I found a substitute in butter at breakfast. Had I not done so, you would not so easily have extracted the broken part.

PISCATOR. Here we are at our neat inn. We had best undo our rods, as there is no safe place for them within doors, and if left out and it should rain during the night, we may have trouble in taking them to pieces from the swelling of the wood from moisture, which even your buttering precaution will hardly prevent. And, as my line is prepared silk, prepared by being well rubbed and saturated with drying linseed oil, I shall wipe the wetted portion before winding up. A line such as this, I may

remark, has its advantages for salmon fishing, by its increased weight, it can be cast further; not absorbing water, it is readily dried; and it is little subject to rot or lose any of its strength by keeping. Landlady, here are a few brown-trout; add them to our dinner, and let that be as good as you can provide.

AMICUS. Now that we have dined, and not ill dined, thanks to your basket,—for without the hung beef and ham we should have fared poorly,—so well explained by the landlady's excuses,—will you indulge me with some particulars of the natural history of the salmon,—a fish on which I am now very intent, taking an interest in it, not unlike that of the Greenland whaler in the whale on entering the arctic seas.

PISCATOR. Your feeling is a natural one. The capturing of a salmon, considering how it is accomplished, may well be compared with that of the whale. A friend of mine, a good trout fisher, but entirely unacquainted with salmon fishing, used pleasantly to maintain that the killing of a salmon with rod and line is altogether a myth. Your request I most willingly comply with.

The natural history of the salmon is in many

respects curious, especially as regards its breeding and early stage of existence, and is very deserving of the attention, not only of anglers, but of all classes of people, and most of all of our legislators,—the laws which have hitherto been established for the protection of a fishery so important, viewed merely in relation to salmon as an article of diet, having been made without the accurate knowledge required, and have in some things been founded on absolute error. But perhaps this is the more excusable, as it is only within the last few years that the natural history of this fish has been tolerably ascertained.

AMICUS. We have a long evening before us. Indulge me with beginning *ab ovo*; and refreshed as I am with tea immediately following our dinner, I am sure your account will keep me awake,—which, knowing as you do my habit, pray accept as a compliment.

PISCATOR. I will do as you desire. Excuse me if I am guilty of any repetition. I have spoken of the analogy of the salmon and white-trout, and you will perceive as I proceed how close it is. Like that of the white-trout, as before described, the spawning season of the

salmon is principally in the fall, commencing in the middle of September and concluding in March,—the time within these limits varying in different waters. The process of spawning is briefly after this manner: the male and female fish, in pairs, seek a bed of gravel in a brisk and not deep run of water; there, conjointly, they make a furrow, turning up the gravel by working against it with their snouts. Here the female lets drop the ova, which, when mature, being loose in the cavity of the abdomen, and by their large quantity distending it, are most easily excluded through the aperture intended for their exit, then unusually patulous; and the male following, sheds on them the milt, then mature, in a liquid state, and most easily expressed through the minute papilla in which the testes, the discerning organs terminate. The ova are about the size of peas, formed of a yellow yolk, enclosed in a strong membranous transparent shell, and are often called the pea. They are so abundant as in each fish to amount to thousands, the number increasing largely with the size of the fish. The milt, when ejected, is a milky fluid, owing its appearance of milkiness to excessively minute granules sus-

pended in it. These, millions in number, and most easily diffusible, are its active part, its spermatozoa, which coming in contact with and penetrating the ova, impregnate them, imparting a vivifying influence, a developing principle, without which they would become addle and abortive. Whilst performing this parental act, which may occupy at intervals several days, the parent fish, as I have before mentioned, drive from their breeding bed intruding fish, such as the trout, which has a keen relish and a gluttonous appetite for salmon roe, thereby proving one of the greatest enemies of the salmon. The function performed, the ova laid, impregnated, and lodged amongst the gravel, the pair return to deep water to rest after their labours, taking no more concern about their offspring: these are left to their fate and the mercy of chance and the elements, exposed more or less to be preyed on by water-fowl, especially the water-ouzel, by the larvæ of aquatic insects, especially of the May-fly, and to suffer and be destroyed by floods washing them away, or by drought drying them up. In due time, under favourable circumstances, their development makes progress, and the more rapidly the milder the season, the higher the tem-



perature of the water; even 1° of Fahrenheit may make a difference of several days. If carefully observed, the organs that first become distinctly visible are, as already mentioned, the eyes, and shortly after, the heart and pectoral fins are seen, and in action. About the one hundred and twentieth day, they burst their shell and escape from their confinement. In this stage they are about three quarters of an inch in length, have a supply of food attached to their belly in the form of a little sack, the residue of the yolk, and besides the pectoral fins have one single fin, extending from the middle of the back, including the tail, to the corresponding part of the belly. During the first six weeks of existence, or thereabout, whilst supported by the attached yolk, which is gradually being absorbed, performing a part corresponding to that of the mother's milk in the instance of the young of the mammalia, they need no ordinary food, and do not seek it, leading a comparatively indolent life, hiding themselves amongst the stones and gravel. At the expiration of the time specified, when they have to provide for themselves,—their food chiefly, I believe, microscopical animalcules, the infusoria, which their

powerful vision well adapts them to see,—they have more strength and are more active, their several fins now appearing apart. They are now about one inch in length, have acquired nearly their perfect form, and are more capable of taking care of themselves. As the eggs of all the true Salmonidæ are nearly of the same size, form, and composition, so are the young of them all, up to a certain stage of growth, very similar, and, excepting on very close attention, hardly distinguishable. The growth of the salmon-fry, in common too with that of all the others, is at first very slow. As they increase in size and in power, and as with the advance of the seasons from winter to spring and from spring to summer, their supply of food increases, so in like manner does their rate of growth. In May, the young salmon hatched in January may be an inch and a half or two inches in length, and in June three or four. At this time it is distinguishable by transverse markings on its sides, dark bars,—markings which in the young of the trout of the same age are only very faintly observable. It now passes under different names in different parts of the United Kingdom; in Scotland, being commonly called

the parr ; in Ireland, the gravelling, the jenkins ; in England, the pink, fingerling, brandling. During the remainder of the summer and autumn it continues to grow without marked change in its character. Nor is any marked change observable till the following spring. Then, when taken, it is found to have the character of the salmon in miniature. The transverse markings have almost disappeared ; it has now acquired a coating of silvery scales, easily detached, and when detached exposing the old markings in the skin, now somewhat fainter, which they had previously hid. From this time the course of the fish is downwards towards the sea, and commonly before the end of May the greater number have left the river, according to the old rhyming adage, that


The first floods in May  
Take the salmon fry away.

In this stage they are called salmon-fry, as in the rhyme, or smolts or smelts. The first term is most in use in Ireland, the second in Scotland, and the last in England. It is worthy of remark, how as the young fish advance in size, they pass from the upper portions of the rivers

in which bred, and their tributaries, to the main channel, gradually descending: in this their progress seeming to show a wise provision of nature, inasmuch as were their descent sooner, when in their feeble state, they would leave a situation of comparative safety for one of danger,—that of becoming the prey of the larger fish.

AMICUS. Thank you for these particulars. It is an interesting history. Allow me now to ask you one or two questions, which I would not propose before for fear of interrupting your narrative. As to the salmon roe, it seems to me strange, first that it should be covered with gravel, and next, that buried in gravel, it should retain its vitality and be hatched. Is not the roe very light, not fitted for sinking and bearing the pressure of heavy gravel, and very liable to be washed away? If in error, pray set me right.

PISCATOR. Your queries do not surprise me. At one time I had similar doubts: these led me to make experiments which in a great measure have removed my doubts. I ought, at first, to have been more particular about the ova, for some of their properties are peculiar. I will recur to them. First, as to their



composition: they are formed chiefly of two substances, of a fluid albuminous matter, which is transparent and colourless, and of a liquid oil, which is coloured (whence the colour of the eggs is derived) and globular, diffused in minute particles, distinguishable only under the microscope. The albuminous fluid possesses the singular quality of coagulating on admixture with water. So long as the ova retain their vitality they resist the admission of water; dying their membrane becomes pervious to water: it is imbibed, the albumen is coagulated, and the eggs, from transparent and little conspicuous, become of a dead opaque white and very conspicuous. As to the specific gravity of the ova, it is far from very low: the impregnated egg, or the egg ready for impregnation, I have found of the specific gravity 1070 to water as 1000; than which few animal substances are higher. The dead egg, after it has imbibed water and become opaque, is of lower specific gravity; I have found it as low as 1033. The difference of the two is easily and prettily shown, by dropping them at the same instant into a tall jar full of water. The higher specific gravity of the transparent egg is

shown by its more rapid descent, distancing the other the more, the longer the course, the taller the jar. Even in this matter we see a happy adjustment; the opaque addle eggs being lighter and more conspicuous, are so much the more readily swept away and separated from the transparent, those in process of organic development; or if not washed away, they may serve as lures, and the means of saving the latter from being devoured. The specific gravity of the sound eggs is quite sufficient to secure their sinking in water, and of being in a large proportion buried in gravel. Try the experiment; it is an interesting one. I speak from the recollection of what I witnessed when I first made it. Near the margin of a pretty rapid brook, where there was a clean gravelly shelving bottom, I formed a little pit with a garden-trowel; into it, I poured gently from a bottle a quantity of roe, and without loss of time turned back the excavated gravel. Many of the eggs were swept away in the little currents and eddies formed in the act, but the greater number were buried. It was curious to watch the ova that were swept away, and to see how, sooner or later, they found a place of rest in situations

best fitted for them, as if guided by a special intelligence,—places of rest, where in crevices and crannies, and under over-lapping stones, they were not only safe from the impetus of the stream, but also in a degree safe from the attacks of fishes and birds. What I observed on this occasion satisfied me that it is the *intent*, at least, of the Salmonidæ in making their breeding furrows under the influence of their blind instinct, to bury their eggs. And so buried, at a very inconsiderable depth under running aerated water, probably they have the best chance of being hatched, being there not only safer from the depredations of enemies, but also from the effects of frost and droughts. I am disposed too, to believe, from some trials I have made, that the exclusion of light may be favourable to the hatching process.

AMICUS. You have amply satisfied my crude doubts. There is another question, on which, you will oblige me, by giving me some information. Has not there been much dispute on the subject of the salmon-fry, and especially respecting the parr?

PISCATOR. There has been, and with much profit. The stage of growth which has given

rise to the discussion, is that middle one, attained, as I have stated, about June, and retained during the remainder of the year. In this stage, the young salmon, however designated, was long considered a distinct species, quite apart from the salmon, and therefore not needing protection by law in the manner of the acknowledged salmon-fry, that is, when the silvery scale had been acquired. Accordingly, the capture of the one was allowed, and is still allowed in some of our English rivers, as it is also in some of the Irish,—a permission attended with an immense destruction;—whilst that of the other was prohibited under a heavy penalty. Not only was the marked difference of appearance insisted on by those who supported the doctrine of the distinct species in the instance of the parr, but also the fact,—and it is a curious one,—that in the parr the milt is matured so as to be fit for the impregnating function; it being acknowledged, however, that in the female fish no corresponding development of the ova could be detected. To one inquirer, Mr. Shaw, we are most indebted for throwing light on this obscure subject, and for explaining what appears anomalous. He, by a series of well



conducted experiments, proved that the parr—the fish with its mature milt in August and September—kept in a confined pond, changed its appearance in the following spring, and in May had become a veritable smolt, with its silvery scales, ready and impatient for emigration. And, he further proved that the milt of the parr is capable of impregnating the eggs of the full grown salmon; and as the young fish, the male parrs, haunt the spawning beds of the salmon, they may be considered as a supplementary provision designed in wisdom to secure the due impregnation of the ova,—these, in a large spawning-bed, the resort of many fish, being deposited in countless numbers. Another fact, and I think a convincing one, in conjunction with the preceding, is, that the parr has never been found except in streams frequented by salmon;—a coincidence that would be strange indeed, were it an independent species and not migratory, which the advocates of its being a distinct species have never held it to be.

AMICUS. What you state seems to me to be convincing. There is another point I could wish to be informed about. I have recently read in more than one provincial newspaper,

that the ova are impregnated not after, as you say, but before their exclusion, and consequently that the mixing of the roe and milt in the artificial process, as it has been called, of breeding salmon, is unnecessary. From your not having alluded to it, am I right in inferring that you do not adopt this conclusion?

PISCATOR. You are right. I have made many experiments on the subject, as have others, and the results have been all negative. In no instance that the mature ova have been isolated after exclusion, have they proved fertile, unless milt were added. In the case recorded in the newspapers, in which young trout were said to have been obtained from ova placed in a perforated box in a stream, we cannot be sure that they were isolated; the diffusible mature milt shed by a male above, might have been conveyed to them in the running water. Moreover, the organization of the fish exhibits a total inaptitude for the mode of impregnation imagined. If curious on the subject, I may refer you to a paper expressly on it, published in the last volume of the Transactions of the Royal Society of Edinburgh.

AMICUS. I am satisfied. Have the goodness to proceed with the history of the salmon.

PISCATOR. I have alluded to the slow growth of the young salmon whilst in fresh water. Slow indeed as that is, it varies in different waters, and in consequence, the size of the fish of about the same age varies a good deal in different rivers, and when ready to migrate. As a rule, it may be laid down that the better the feed, the larger the smolt. Those from hungry streams, such as the Duddon in our Lake District, flowing rapidly over primary and secondary rocks, are less than half the size of others, those of larger rivers flowing through or out of lakes, and through a fertile country such as the Shannon and Erne. But it is when the young salmon reach the sea that their most remarkable growth is witnessed; there its rapidity is truly surprising. Mr. Young, of Invershin in Sutherlandshire, by a series of well contrived and carefully conducted experiments, has proved in a satisfactory manner, that the smolts which before entering the sea were only about five inches in length, and of proportionate weight, in the short space of two or three months have returned as grilises—the name applied in Scotland to the young salmon on its first return to its native stream—weighing from four to seven pounds, and of proportional length.

**AMICTS.** Such an increase does not surprise me. Do we not witness in birds an augmentation as great and as rapid? Observe those goslings, which have just left the egg, and which individually may weigh three or four ounces; in a few months they will attain their full size, and weigh each from eight to ten pounds. What you mention about the sudden change of the parr to the smolt,—a change so great as to have given rise to the notion of their being distinct species, seems singular and abnormal. In the vegetable kingdom, indeed, we witness transitions as great, comparing for instance certain plants before and after the shedding of their seminal leaves;—but I am not aware of analogies of the kind in the animal kingdom. Your knowledge is more extensive than mine, and probably you can furnish some.

**PISCATOR.** The lower we descend in the scale of organization, the more abundant are such analogies, though even in the higher they are not wanting. Even at the top of the scale, taking man as an example, without regarding his foetal state, how different in form and attributes is the helpless infant and the powerful adult! how remarkable is the change at the pe-

riod of puberty ! In the insect race we see the metamorphoses which are taking place,—those essential to the completion of the perfect animal,—in regular sequence ; first from the egg, the caterpillar, grub or maggot ; then the chrysalis, and from it the imago or finished insect. As strongly marked changes of form have been observed in the growth of the crustacea. Amongst the Batrachians, the frog or toad, for instance, we first see it as the tadpole, essentially a fish ;—such it is in its form, habits, and the element it inhabits ; watch it, and we observe it passing into the reptile-fish, acquiring pectoral and ventral limbs and true amphibious powers. Watching it further, we witness another metamorphosis,—the loss of its gills and caudal fin, and with reduction of bulk, its transition into the complete reptile. Then as to procreative power, which seems so extraordinary in the young salmon, we have an instance somewhat analogous in the young males of some of the Herbivora, especially the kid ; \*—and in animals lower in the scale we have examples still more singular

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\* See “ Proceedings of the Zoological Society ” for May, 1847.

of the exertion of this power in early stages of development, long before the acquisition of the adult or perfect form.

AMICUS. It seems singular that a fish which thrives so well in the sea, growing there so rapidly, and becoming there in such excellent condition,—feeding on choice and abundant food,—should ever leave it, and especially for rivers and lakes, in which, having reached them with difficulty, encountering various dangers *in transitu*, it appears from your account always to deteriorate. Can you in any way explain this? Man appears to have no desire to emigrate until forced by dire necessity. Every great exodus of the race has been under some powerful impulsive motive; either scarcity of food, as recently witnessed in this country; or the lure of gold, as exemplified in the instant rush to the wilds and solitudes of California and Australia; or cruel persecutions on religious grounds, as in the instances of the Spanish Moors and Jews, the French Huguenots, the English Independents.

PISCATOR. I wish I could give you a satisfactory answer, but I cannot,—not being satisfied myself as to the migratory motives of the

salmon. If we say that it is connected with a powerful instinct, we do not untie, but cut the Gordian knot; and yet I know of no better reply. This is certain, that the migratory habit is connected with an important end—the preservation of the species. Were the ova deposited in salt-water, their death would ensue; or were they hatched in the sea, the young fish would there perish,—sea-water, as I have ascertained by experiment, being fatal to them. Some naturalists have endeavoured to explain the migration of the salmon from and to the sea, on the supposition that in passing into fresh-water it frees itself from a parasite, and that in returning into the sea it rids itself of another; in the one instance, from an insect which cannot live in fresh-water; in the other, from a worm to which salt-water is destructive. Were it true that the skin of the fresh run fish is always infested with the former; or that the gills of the spent fish are always obstructed by the latter, then the conjecture might be received as plausible; but, according to my experience, many fish, immediately on leaving the sea, are free from the insect, and also many, before their return to it, are free from the worm. We

ought always to endeavour to distinguish between coincidences and causes; we ought always to keep in mind that in the economy of Nature there is a felicitous adjustment of circumstances all tending to good, an adaptation of one to another as if pre-ordained. As to the deterioration of the salmon so long as it remains in fresh-water, I would wish to speak with caution. After spawning, it is, like the trout, comparatively feeble and emaciated. Like the trout, it seems to require rest, and with the reduction of the temperature of the water as winter advances, it becomes sluggish, almost torpid, approaching the state of the hybernating animals. Recruited by rest, after a while it shows more vigour and vivacity, and in a somewhat improved condition makes its way to the sea in quest of abundant nourishment. Inasmuch as reason is not concerned in these its doings, we call them instinctive; and I believe we must rest satisfied with so calling them, and in considering them the results of a higher wisdom akin to the intuitive.

AMICUS. If the salmon returns from the sea in the short space of two or three months,—which I think was the time you mentioned in



the instance of the smolt's re-appearing as a grilse,—does it not spend the greater portion of its time in fresh-water, and may it not be called a fresh-water fish?

PISCATOR. That many salmon return in the space of time mentioned, has been ascertained in a satisfactory manner by the re-capture of marked fish: but it does not follow that all sojourn so short a time in the sea: some, I believe, remain much longer—the great weight and breadth of some fish seem to indicate this. It is also indicated by the fact of some entering fresh water mature for breeding,—their ova and milts fully formed, though in the majority of cases these organs become developed after the fish have taken up their abode in the lake or river. For my part I would rather call them migratory fish, than exclusively sea or fresh-water fish, being strictly neither.

AMICUS. When speaking of the transition of the parr to the smolt, you laid emphasis on its acquiring silvery scales, and on these hiding the peculiar markings of the parr. Is this a solitary fact, or are there analogous ones on record in the animal kingdom?

PISCATOR. There are many analogous. Ser-

pents, you know, cast off their skins annually. The crustacea acquire new coverings. Birds molt. The growth of new and more brilliant scales, such as the silvery scales of the smolt, seems to be a process of the same kind. Nor is it, I believe, confined to the young salmon; I have witnessed it in the trout when feeding greedily, having an abundant supply of food, and growing rapidly: then its scales have had very much the character of new ones, being more than commonly brilliant and crowded and loose.

AMICUS. As to the time that the salmon-fry remain in fresh-water, is there not amongst those who have paid attention to the subject a difference of opinion?


PISCATOR. There is, some assigning two years; others only one. These times, probably, are a near approach to the extreme limits. It is necessarily difficult to fix the exact time. If it be attempted by breeding fish in ponds, the period, as marked by the appearance of the silvery scale, may be protracted, owing to a want of an abundant supply of food checking growth: if in rivers, it may not be easy to determine the time of the fish bursting the egg, or the exact

time of their change of dress. Various circumstances may influence the growth of the young fish and their fitness for migration, especially two; food, as already alluded to, and temperature. Take the instance of an early spawning fish: suppose its ova laid in September, before November they may be hatched. Such fry, in the June following, may be taken as brandlings with the fly, and will probably remain in the river till the following May, so completing a period of rather more than a year and a half. Further, take the instance of a late breeder, one that drops its eggs in January or February: these, in that cold season, are not likely to be hatched till March or April: in May or June they will be too small to take the fly or to attract attention; and yet, in consequence of abundant feed, they may be fit to migrate in the following May, or when only, or a little more than, twelve months old. This view tends to reconcile the two opposite views, and I believe it to be in accordance with facts. In the river Shin, I am assured, that if one year has been a good breeding year, the season following, with the interruption of a year, is sure to be an abundant one for grilse, and *vice versâ*. In

other rivers which I could name, in the month of July salmon-fry of two sizes may be seen, the larger and the smaller,—parrs taking the fly, and fry so small as to be unable to take it. Our conversation has been longer than I looked for, and more discursive; the night is advancing; let us to bed; and may we have auspicious dreams, and good sport in them; this is one of the many pleasures of anglers! Good night!

AMICUS. Good morning. Surely the weather is favourable. There is a mild wind and partial clouds, and some rain has fallen during the night. Rising thus early, we deserve success. What flies shall I use?

PISCATOR. Begin with a single fly; and indeed restrict yourself to one. If you have more, and should hook a fish, the other fly or flies may be more than incumbrances, may occasion loss by catching hold of some rock or weed. As we are so early in the season your fly may be one of large size, and as the water is rather dark, of bright colours. The rule is, grounded I believe on experience, that the darker the water the brighter should be



the fly, and the more advanced the season the smaller the fly.

AMICUS. I see you work your fly in a manner different from that you practise in trout-fishing.

PISCATOR. Yes. It is best to allow the fly to be under water, and then to draw it towards you by a succession of jerks quickly repeated, casting it so, that it may make a curve in its course.

AMICUS. You have hooked a fish. What a rush it makes! Surely it is a fresh-run one!

PISCATOR. It is getting tired. We shall soon be able to judge. Fisherman, be ready with the gaff. Now we have him. Though an active fish, he is not fresh from the sea, but on his way thither. Observe him narrowly; his back is darker, his belly as white though not so silvery as that of a fresh-run fish, and he is lanker, especially towards the tail. It may be about six pounds in weight; were it in high condition, on its return from the sea, it would weigh not under ten pounds. As this is the first "slat" you have seen,—the name by which the descending fish are here called,—we will keep it for examination. Yonder is "The Dean's Point."

Place yourself there ; there you will hardly fail to rise a fish. The spot has its celebrity. It was the favourite stand of a venerable and zealous angler of the past generation, who, it is recorded on one occasion, killed five good salmon in succession without moving from that rock.

AMICUS. I, too, have hooked a fish. It struggles mightily. What leaps it makes! Surely, this is not a "slat!"

PISCATOR. He is tired. Fisherman, give him the gaff; he is sufficiently near. Take my word for it, he too is a "slat," a travelling companion of mine. We must let him go; he will soon recover from the flesh-wound he has received. I shall now leave you for a while. If not before, we shall meet at dinner, or sooner, if we have not sport, which I hardly expect. You go in one direction, and I will proceed in the opposite. On the islet formed by the division of the river, above the cruves, you will have another good chance of taking a salmon.

AMICUS. I have been waiting for you more than an hour, not having had any further success: pray what has been yours?

PISCATOR. I have taken two more "slats,"

which I forthwith liberated, and two or three white-trout, also "slats," one of which I have kept for examination,—and three or four brown-trout, which I shall hand over to the cook. We will now open the reserved salmon and white-trout.

AMICUS. How pale the muscles of both! They have entirely lost their salmon hue. They cut like ill fed river-trout. In vain I look for worms in their gills. In the stomach of the salmon, which is small and collapsed, I find only a few very minute black flies; and in that of the white-trout, not even these, merely a little yellowish mucous fluid.

PISCATOR. What you have seen I have seen before, and little else in the instance of slats. Sometimes, I have found in the cavity of the abdomen of the female fish detached ova of full size, the residue of the spawning; but in no instance exhibiting any marks of organic progress, such as might be expected were impregnation effected *ab externo*. I have cut off a portion both of the salmon and the white-trout for trial at table. I shall desire the cook to boil one and fry the other. You will, I hope, taste them. You will not find them amiss, and could you

get nothing better, might well make a meal off them. Whether boiled or fried, their resemblance to an ill fed river-trout is preserved; insipid, rather than ill flavoured, and unduly soft. When we next angle for salmon together, I trust it will be at a more favourable time, and that we shall have better sport with better fish.





## COLLOQUY VII.

*Salmon fishing continued. Ballyshannon.*

AMICUS.



WE are met again, and happy I am to meet you; and, now we are three months later than on our last year's excursion into Connemara, I promise myself better results.

PISCATOR. Yet, I fear, we are again too early, for I am informed that few fish have yet been taken here with the net, and two only with the rod, and those yesterday and to-day. The Erne is a late salmon river; fish, I am assured, do not enter it in any great numbers till about a fortnight or three weeks hence, that is, not till about the middle or latter end of June.

AMICUS. Can you at all account for this lateness? I have been reading on the subject, and from such information as I have been able

to object. I had come to the conclusion that this fine river, flowing out of Lough Erne, one of the largest of the Irish lakes, at no great elevation above the level of the sea, probably not two hundred feet, and fed by streams conveying the drainage of a moderately hilly, not of a mountainous country, would have been an early one, as its temperature in the early spring cannot be low.

PISCATOR. This inference of yours, I suppose, is founded on the idea that the temperature of the water in some measure regulates the advent of the salmon;—an idea which, if tested by facts, can hardly be adopted. I cannot speak on the subject with the precision I could wish, owing to the want of accurate observations on the temperature of salmon rivers during the several seasons of the year. To show that I have reason to doubt the correctness of the commonly received opinion, I will mention a few instances. In Lough Melvin, salmon appear early in spring. There May is one of the best months of the twelve for salmon fishing; and yet, judging from the character of the lake, its water in spring is probably colder than that of the Erne, whether river or lake. You

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know how near they are to each other, and that Lough Melvin derives its water from higher ground than Loch Erne. A like example of an earlier salmon water is the River Leannan and Loch Ferne; the former flowing through the latter, and meeting the sea at Rathmelton in Donegal. Both in the river and lake, I have been assured that fresh-run salmon are to be met with early in the year, indeed throughout the winter as well as the spring, summer, and autumn; and in consequence, that the proprietor considers himself aggrieved by the fishery laws,—not being allowed to take salmon before the regulated time, the first of March. The Scottish salmon rivers, on the idea you allude to, should be late; but they are generally early, and some of the most northern are the earliest, as those of Sutherlandshire and Caithness, in which there is good fishing in February and March, when probably their water can be but little above the freezing point. On the same idea our English salmon rivers should be early; but, on the contrary, most of them are late. The subject of the migration of the salmon and its congeners, and of their time of coming into different rivers, and the predilection they show

20 SOME MORE THAN OTHERS are altogether obscure, and need and deserve inquiry, without which we are hurriedly hurried. I apprehend no satisfactory conclusion can be expected. Now for action: the boat is ready: and thanks to the kindness of the liberal lessee of the fishery, Dr. Shiel, we have permission to fish the pool, where he assures me, even thus early, we can hardly fail taking a salmon.

AMICUS. What a broad expanse of water, and how singularly situated! A roaring fall below, a noble old bridge above, buildings, dwelling-houses on each side, their walls rising out of the water, and broad as the stream is, confining it. What a contrast with the river we last fished, the Ballinahinch! Here we shall have spectators of our sport, if any sport we have.

PISCATOR. Our boatmen, who know the pool well, say we should commence near the bridge and fish downwards. Ah, you have hooked a fish, and it is a powerful one. Give him plenty of line. He is now turned. Wind up quickly; press on him well. He is again making a run; and let him run. Your line is all run out. Boatmen, ply the oars; follow him speedily.

AMICUS. He is off. He has broken the line. What a loss, and after a struggle of at least half an hour.

PISCATOR. Let me see the line. I see how it happened; the breakage, I perceive, was at the junction of the line and casting-line. There the line was worn. Your line, too, was too short for such a powerful fish. A proper salmon-line should not be less than from seventy to a hundred yards in length, and of a strength to be relied on.

AMICUS. What energy and power this fish showed, compared with those we took last year in Connemara!

PISCATOR. And for a good reason. Those, you know, were migrating seaward,—lank and feeble, not exceeding six pounds in weight. This was in its best condition; lately come from the sea, and in its full strength, after probably a few days' rest, and, judging from its appearance, from eighteen to twenty pounds in weight. To kill such a one, good tackle, as well as some skill, is required. It is excellent practice. Take heart, and, with heart, hope.

AMICUS. The day is nearly at an end, and not another fish have we hooked. Certainly

the salmon angler's motto should be *Pazienza* as well as *Speranza*.

PISCATOR. And a good motto it is for working as well as for sporting days. See, angling has even its moral training!

PISCATOR. This second day is more promising; for the breeze is fresher. We will commence near the rapids, above the fall, and proceed upwards.

AMICUS. As we are near enough to converse, and as, without any of the talent of a Julian, I can give attention at the same time to your words and my fly, pray tell me are there salmon in Lough Erne?

PISCATOR. May we be interrupted in our talk. As to your question, from all I can learn, salmon do not commonly make the lake their resting-place, mostly passing through it on their way to the feeders of the lake preparatory to spawning. There may, however, be exceptions. Though I never heard of salmon taken in it with the fly, its capture with the net is not very rare; and a pair—I have heard it stated by the person who witnessed it—have been seen preparing for spawning on a shoal of gravel on the shore of an islet called Rabbit-island.

AMICUS. Is not the circumstance of Lough Erne not being distinguishedly a salmon lake remarkable and an exception ?

PISCATOR. I cannot say that it is, inasmuch as there are many lakes communicating with good salmon rivers destitute of salmon, as well as the more fortunate examples of lakes so situated abounding in salmon. Of the cause of the difference I am ignorant. This too is a subject deserving inquiry. I once fancied that the presence of pike might be the chief cause, finding that this fish is unknown in certain salmon lakes, such as Killarney, Lough Inagh and others I could mention, whilst it is common in certain destitute of salmon, such as Windermere and some others of our English lakes ;—but I was obliged to relinquish the notion, finding that there are lakes in which both fish are met with, for instance, Lough Dorg, an expansion of the Shannon.—See, a fish has taken my fly ; and that you may have practice you shall kill him, if you can. Quick and take my rod and play him deftly and warily ; for this too is a powerful fish.

AMICUS. I am almost weary, as I hope the fish is. Surely he is getting tired : his runs are shorter, and he is more under the control of the rod. Boatmen, be ready with the gaff.

PISCATOR. Be patient; his strength is not yet exhausted.

AMICUS. He too is off: broken! broken! What a bungler I am! shall I ever master a salmon worth mastering!

PISCATOR. In this instance truly you were in fault: off your guard, you allowed the point of your rod to drop, and that when the fish was making a last effort; and the strain being thus taken from the flexible rod with its strong spring and leverage, and exerted on the line, the disaster followed. But, be of good cheer: remember what you said, "practice makes perfect;" next, how "the third time is lucky;" and there are other encouraging sayings.—Boatmen, take us towards the bridge. That part of the pool has not been disturbed for an hour or two, and as there is an abatement of wind, the rapids there will be in our favour. I shall try a smaller fly, a gay one, the golden pheasant the prevailing feather.

AMICUS. Your fly has a charm in it. At the first cast you have hooked a fish.

PISCATOR. And you shall play this too. Take the rod, and remember where the butt and point should be, the one well down, the other



up; and be mindful of your reel hand, give him plenty of line and freely, and yet let him feel the pressure of the rod. You have now had him in play at least half an hour. He is turning on his side and getting exhausted. Now for the gaff. Boatman, strike him near the tail.—There you have him, and a good fish it is, though hardly so large as you imagined: he will reach about 13lbs. Apply the hammer to his head.

AMICUS. What a beauty; how finely formed; so small a head; so thick in the body; such an arched back; such a silvery coat! This indeed is angling. I am proud of the exploit! Pray tell me one thing. Why did you desire the boatmen to gaff him in the tail?

PISCATOR. Chiefly because the tail is the fish's main organ of strength; there lies his power; and further, because the wound there is less disfiguring.

AMICUS. One question more. Why did you direct the head to be struck?

PISCATOR. To deprive the fish instantly of life, and this as much for the sake of the fly, as for humanity-sake,—the fly commonly suffering in being extracted from a struggling fish. We will now land; but before we return to our inn

you shall have a cast at the rapids above the fall. Take my rod,—one better fitted for work, and especially in that water, than yours. I will look on and also look at the young eels in their ascent,—here a marvellous phenomenon, and which you too must see.

AMICUS. I have heard of this; but what I see, exceeds all expectation. The pools bordering the rapids are black with them; and where the water has retired I see numbers innumerable are dead and shrivelled, and the air is tainted with their smell.

PISCATOR. Now to your cast. We can return to the eels; they are never failing; millions of them—you may well say numbers innumerable—are in progress, migrating from the sea, and so will continue for weeks in almost endless succession.

AMICUS. The fly you recommended has hooked a fish, and the heaviest I have yet felt.

PISCATOR. He does not show himself. Your tackle is strong. Press on him well. Good. He is turned. He now makes up the stream. Keep him there if you can.

AMICUS. He is running wild and down the stream, and will be over the fall. What is to be done?

PISCATOR. Let him go. We must follow him. There, he is over. Fisherman, you know the rocks; take the rod. It will not do for my friend ignorant of the ground to risk his life, even for a salmon of thirty pounds. Boatman, you hasten below, and on that projecting rock be ready with the gaff.

AMICUS. I saw him in his fall—a monstrous fish! He is surely free. No,—the line is again taught, and the rod bends. He rushes down the foaming rapids. Alas, the line slackens. He has escaped.

PISCATOR. In the turmoil he has got rid of the hook. There has you see been no breakage. You have witnessed an exciting incident; and look, a crowd have been spectators of it. We will look again at the eels, and then home to dinner.

AMICUS. How laborious is this salmon fishing! The play of that runaway fish an hour has tired me; my left arm is sore.

PISCATOR. Such fishing is a trial of strength and activity, and beyond a certain age one ought not to attempt it. It is not only too wearing to the muscles, especially of the left arm, those being kept in full and the same action for so long a time, but also too exciting. A friend of

mine somewhat older than you,—a physiologist, after a contention with a heavy fish in the same spot and with a like result, immediately after counted his pulse. He found it a hundred and twenty; commonly it was only fifty. It was well for him, that his heart was sound. Follow me. I can bring you to a spot where you can witness the mode of ascent of the eels.

AMICUS. This is indeed a curious sight. Here are some wriggling up a perpendicular rock. How is it that they accomplish this? Moreover, breathing by gills acting on the air in water, how can they live out of water?

PISCATOR. How they can live out of water I cannot say; but that they can for a certain time is certain. The last time I was here, I put a handful of them in a handkerchief wet, took them to the inn and placed them under a glass cover, allowing them air and moisture, and after twelve hours I found many of them alive. Eels, you know, are very retentive of life. In this respect, and in the power of resisting death out of water, different species of fish wonderfully differ. Some die almost immediately, as the salmon and trout; others live a long while in the air if kept moist. The carp is a remarkable

instance ; it can even be fed and fattened in the air. As to the ascent of the young eels in situations against gravity, I believe they are able to accomplish it chiefly owing to two circumstances, their mucous glutinous surface favouring adhesion, and their form small and slender. None of these eels you perceive are more than two or three inches long, and slender in proportion. Watch one that is now in progress, ascending that perpendicular rock. See how it makes its tail a support, adhering by that, whilst it projects itself upwards ; and this done, now adhering by its trunk, it draws its tail after it. These are its steps ; and the asperities of the surface of the rock are its stairs favouring its exertions.

AMICUS. Have not eels scales, and may not these be useful in its progress ?

PISCATOR. I thought they might ; but on examination, subjecting these young eels to the microscope, the notion was not confirmed. I found the abdomen almost destitute of scales ;—whilst distinct on the back, only a very few scattered ones were to be seen beneath, and these in minute patches.

AMICUS. This place must be well adapted for studying the migrations of the eel. What a

contrast we have here in the two fishes—the eel and the salmon; the one bred in the sea, quitting its native element at the risk of life to pass into fresh water, of which it has no knowledge, there to grow and fatten:—the other pursuing an opposite course; highly fed in the sea, returning in its strength to the river and lake to produce a progeny, which, at their appointed time, will seek the salt-water in the same ignorance and with the same avidity as the young of the other seek the fresh-water.

PISCATOR. Ballyshannon is a most favourable place for the study of this curious subject; and the naturalist, had he no other object in coming here, would be well repaid in the opportunity thus afforded him. The contrast you speak of is indeed remarkable and striking, and here especially from the nature of the locality,—these perpendicular rocks,—that foaming cataract,—and the description of fish as to age,—the eels in their feebleness able to climb up the one,—the salmon in their power able to leap up the other. Knowing your desire for information on the subject, I will not wait for you to ask, I will freely communicate the little I have learnt of the habits of the eel in its migra-

tions, and especially here. That it breeds in the sea, is no longer a doubt. The migration seawards appears to be for this purpose and this alone. The large eels, from one to five and six pounds in weight, begin to descend towards the end of August,—then the eel-pots for their capture are laid,—and continue descending till the beginning of February; but it is about the middle period, towards November, that they crowd downwards. The migration of the young eels from the sea commences in March; is in greatest force in April towards its end, and does not finish till August.

AMICUS. What becomes of the old eels? Do they never return from the sea?

PISCATOR. Some of them do return, and probably all would were they permitted. Those that have been taken returning—for instance, in the salmon nets below the fall—have been found out of condition, in a state like that of the salmon—the “slats,” when going to the sea. At one time the notion was entertained that the eel on entering the sea remained there and became a conger,—a notion altogether erroneous, the two fishes being distinct species,—the one with scales, the other without scales, besides other differences.

AMICUS. Have you directed the salmon, my great capture, to be taken to the inn, and a portion of it dressed for our dinner?

PISCATOR. I have. The boatman will take it first to the clerk of the fishery to have it weighed; we shall keep it, paying so much a pound. It shall be roasted; you will then have it in perfection.

AMICUS. You spoke of the liberality of the lessee yesterday. Is it liberal to require payment for a fish taken by ourselves which we wish to keep?

PISCATOR. The system here pursued is, I think, decidedly liberal. Remember, we have the sport without payment. All that is required is, that each angler or party should be accompanied by a keeper, who is useful to you in various ways, and whose pay is moderate. Two or three years ago, at the suggestion and by the desire of some English gentlemen, men of wealth, a payment of half-a-guinea a day was required for leave to fish. The measure was unpopular, and Dr. Shiel, with a good grace, put a stop to it. Those who hastily consider it illiberal to require payment for the fish taken by the angler's rod, if kept from the lessee, do



not keep in mind the high rent he pays for the fishery, and his great expenses in guarding the river. Would that the same system were observed in all rivers and lakes, and then the angler—the angler for the sake of sport—would be pretty sure of not being disappointed. Before we change our clothes, I must give directions about the dressing of the fish. Here, cook, give us a sample of your skill in roasting salmon. Be sure you have a good clear fire, and a clean delicate spit of wood,—it need not be of arbutus, Ballyshannon not being Killarney, and a good turf. Cut the portions to be put on the spit in moderate size pieces, and dress them thoroughly, and to insure that, not quickly.

AMICUS. A spit of wood! and a turf! They sound strangely. Why the turf?

PISCATOR. The turf is to support the spit. It is stuck into it perpendicularly before the fire; is turned round occasionally and occasionally reverted, so that the whole may be uniformly done; and the fat liquefied thus serves for basting.

AMICUS. (*At dinner.*) This fish is excellent, so short and crisp. Never before have I seen the curd. How conspicuous it is between the

flakes. How different is salmon fresh from the water dressed in this manner, and one kept for some time and dressed in the ordinary way? Can you account for it?

PISCATOR. Perhaps I can. In the fresh salmon there is an albuminous fluid between the muscular flakes, which is coagulable by heat like the white of egg. This is the curd so coagulated. If you ask what becomes of it in keeping, I can only tell you what I think, which is, that this fluid, by the absorption of oxygen, loses its coagulable quality, or its quality of assuming an opaque hue on coagulation, analogous, if the latter, to the albumen ovi, which you know when quite fresh has an opaque milky appearance,—an appearance characteristic of the newly laid egg. Some have supposed that it is converted into fat; but that is very improbable.

AMICUS. It differs still more from the spent salmon we tried last year in Connemara. That was pale; how rich the colour of this; truly salmon-colour! On what does it depend?

PISCATOR. I believe it depends on a peculiar colouring matter derived from the food on which the salmon feeds in the sea, probably shrimps

and other crustacea. I find that it is soluble in alcohol, and destructible by the mineral acids, such as the nitric and muriatic, even when diluted, and by ammonia. An instructive experiment is that of immersing a portion of salmon in alcohol and boiling it. The spirit becomes coloured, and acquires the odour of the fish; whilst the portion of fish becomes colourless, odourless and insipid.

AMICUS. Has it not been said that the colour depends on an oil? and does not the result of the experiment you mention accord with that?

PISCATOR. Hardly, I think; for when you evaporate the spirit, you obtain the rich colouring matter, mixed indeed with oil, which is soluble in alcohol; but if you subject it to pressure between folds of dry and warm bibulous paper, you will find a colourless oil diffused through the paper, the colouring matter, resisting diffusion, separated. Moreover, after the extraction of the colouring matter by the spirit, not using much alcohol, if the colourless muscle be subjected to pressure between folds of paper in the same manner, the paper will become stained by a colourless oil. Further, it may be remarked, it is not that part of the sal-

mon which contains most oil, viz. the thin abdominal part, that is most coloured, but the thick part which contains less. Further still, it may be mentioned, that there does not appear to be any necessary connexion between the condition of the fish and its colour; thus the smolt before it descends into the sea may be fat and yet without the salmon colour: so of the trout, you may have the river, and in some instances lake-trout, in good condition and fat and yet colourless. Whence, all things considered, I am led to my conclusion that the colouring matter is not necessarily connected with, or the property of, the oil or fat of the fish, but merely accidentally conjoined;—and the same conclusion, I apprehend, is applicable to the sapid and odorous matter of the fish.

AMICTUS. What you say appears plausible. It may account for what I have heard asserted that the brook-trout, which in its native brook would always remain white, if put into a pond, with good feeding, whilst rapidly increasing in size, would also acquire colour,—its muscles would become tinted more or less red.

PISCATOR. I could mention other facts in favour of my conclusion. The air-bladder of

the charr is often of a delicate red hue, differing but little from the colour of its flesh; and yet is destitute of oil. Even in the salmon before you, I think you have proof that the colour is not dependent on the oil or fat. How red this roasted fish cuts, and how little luscious it is, and why? partly, I believe, in consequence of its loss of a good deal of its fatty matter in the roasting. In brief, colour, mere colour, whether we consider the coverings of animals, their integuments, or their deep seated parts, their muscles, their flesh, seems adventitious, that is, not essential to their composition, and capable of being separated without any alteration in their composition: so, too, of oils, whether animal or vegetable; these, in their purest state, are colourless, and without change the impure ones may be rendered colourless by the bleaching effects of the sun's rays,—by those very rays which acting on the skin of man tan it, and continued through successive generations, produce the coloured and black races of mankind.

To-morrow we part, but, I hope, to meet again in Ireland. As you have the leisure I want, and propose a further sojourn here, I

would recommend your trying the river. Between the bridge in the town and the lake, a distance of about four miles, there are several good casts, which the fisherman will point out to you, most of which, in the present state of the water, you can reach without wading. You will have some chance of sport; and should you fail of sport, you cannot fail of enjoyment. You will see a fine river, charming as a part of the pastoral landscape, skirted as it is by rich meadows, and especially pleasing to the angler in its succession of pool and fall, and in its freedom from encumbering wood. Moreover, in the horizontal limestone strata which form its bed, and in many places its shore, abounding in organic remains, you may indulge your taste for geological research. And, should your stay be protracted, let me advise you to make trial of the river at Bellick, where, in the pool just above the bridge and the picturesque fall, of which you will find a drawing in that amusing and well written book, "The Angler in Ireland," you can hardly fail of success, that is, if the fish are in a taking mood. The village of Bellick is only about three miles from the town. If you choose to take up your abode there, you

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will find tolerably comfortable accommodations and good fare in the village inn, and an excellent helper in an old keeper, Terry, who resides on the spot, and who can tell you anecdotes of some of the most distinguished salmon fishers—and several of these distinguished men—whom, as he would say, he has had the pleasure of serving, and, perhaps he may add, of improving.



## COLLOQUY VIII.

*Salmon fishing continued. Gweedore, Donegal.*

PISCATOR.



GAIN well met in Ireland, and in one of its wildest parts. Having come in different directions, you from Connemara, I from Letterkenny, we may compare notes; and especially on our favourite subject and sport: I say *our*, and I trust with propriety, considering, as I do, our meeting here a sufficient proof that you are now a confirmed angler, and in love with both.

AMICUS. Pray consider me one, at least a lover of the art and of all connected with it; and, under your tuition, I hope to profit, and in time from an amateur to become a skilled member of your fraternity.

PISCATOR. Now of your experience by the way.





AMICUS. My angling excursion has been wider than you supposed, or than I first intended. Before crossing to Galway, I made a run from Dublin to Killarney. There I spent three days, and most of the time on the lakes, rod in hand, but, though under the guidance of the experienced old fisherman of the place, I had little success. We hooked only one salmon, which I lost, and killed only a few brown-trout, the largest little exceeding half a pound. The scenery, however, did not disappoint me;—it came up to my expectations, rather, indeed, exceeding them.

PISCATOR. You were a month or two too late for the fishing,—the best, at least for salmon, is in March and April. For the scenery you were at the very best time, the first week in June. As to the character of these lakes for beauty, I quite agree with you. Taking them as a whole, I think them superior to any one of our English lakes; and I know—I should rather say, I knew, for it is forty years ago—a very competent judge, Mr. Isaac Weld, the author of a pleasant book on them, who gave them the preference over any of the Scottish lakes,—with the exception, as he said, of

the upper portion of Loch Katrine,—and the opinion was qualified with a perhaps. No doubt you noticed the grotesque shapes of the insulated rocks in the lower lake, so singularly corroded, and the graceful rounded form of the rocky shores of the middle and upper.

AMICUS. I did; the contrast was striking, as was also the rich clothing of vegetation of the one and the absence of it in the other, referrible, I believe, to the quality of the rock. In the upper lakes, the rock, a kind of siliceous schist, has retained the form it owes to glacier action; in the lower, being of limestone, it has not resisted the solvent power of water, and has been favourable to vegetation. After leaving Killarney, my next halt was in Galway, and at the village of Oughterard, where, I may remark, is a still more notable instance of the solvent action of water on limestone, as shown in the deeply scooped strata washed by the river that flows into Lough Corrib, and which, had its depth been measured a few hundred years ago, might now be a valuable geological chronometer. There, in Lough Corrib,—that immense lake, with its multitudinous islands (three hundred and sixty their reputed number),

and not wooded and waste like those of Killarney, but naked and cultivated,—I had a specimen of cross-fishing. You know how this kind of fishing is conducted, by means of two boats, with a great stretch of line and innumerable flies. You, I am sure, must abhor it; no genuine angler can approve or like it. Two salmon were taken, and some large and small trout, the small of about half a pound, and all with salmon flies, which I thought instructive. What interested me more than the fishing on the lake, was the attempt in progress (the first made in Ireland, and commenced only the preceding year) to breed salmon artificially. The spot chosen was close to the village and the river. The boxes in which the operation was carried on were supplied with a small stream of water terminating in a pond, and that connected with the river. A large quantity of eggs had been hatched, and I saw the young fish, vigorous and brisk, sheltering themselves amongst the gravel. From Oughterard I went to Clifden, passing by the Ballinahinch lakes and river, it being too early, as I learnt when with you last year, for white-trout fishing in them, and, owing to drought, the river too low for

salmon fishing. At Clifden I remained a few days. There I met a friend, a zealous angler, and well acquainted with the neighbourhood. Under his guidance I made trial of several lakes within a few miles of the town, and with tolerable success. Having a boat at command, and a cart, if disappointed in one lake we went to another. The shifting scene and the manner of the thing were amusing and exciting. Nor were the lakes themselves without interest. They had a character, a special one of their own,—so dotted as they were with rocks and confined by rocky shores,—the country all round so flat and naked, and unrelieved in its sameness except in one direction, where the mountainous group of the Twelve Pins rose boldly in the distance. One fact I learnt there, which may be worth mentioning; at Anaspick lake, the Lake of Contention, I was assured that the trout spawn in the lake itself, there being no stream either flowing in or out fit for the purpose. From this extremity of Connemara, I made the best of my way by Kilmore, the Killories, Leenan, Westport, Castlebar—names famous in narrative tours—to Ballina, where in the Moy, so celebrated for its salmon fishing, I hoped to gain

some experience in the noble art, but in vain: I found the inn, commonly crowded with anglers; ominously empty; and though I saw many salmon sporting and leaping in the fine pool, the reach of the river above the bridge, I had no encouragement to attempt their capture, being assured they would not take the fly, not a fish having been taken by the rod for many days. The country through which I passed was varied,—wild generally, and for most parts uncultivated; in some parts bold, rarely, however, coupled with the charm of beauty. About the Killories and Leenan and Lough Mask there is most of grandeur; but even in point of grandeur I was disappointed, and cannot but think that tourists who have described these places have indulged in exaggeration.

PISCATOR. Remember that the descriptions of scenery are commonly vague, depending very much on the feeling, knowledge and taste of the describer. That you should have come to the conclusion you have mentioned, I am not surprised,—you who have witnessed the grandeur of the Alps, the majesty of *Ætna*, the wild beauty of Greece, the ornate beauty of the Bosphorus, and how much more! But had the

west of Ireland been the first you had ever visited, you probably would not have considered the notices you refer to as over done. What you mention of the caprice or apathy of the salmon in the Moy, is not, I am sorry to say, new to me, nor can it be to any experienced salmon fisher. The indifference of this fish and of the white-trout to the fly is most observable after or during dry weather, especially as the season advances, and in the instance of fish that have been some time from the sea and detained in the lower pools. The cause I cannot pretend to assign. Be pleased to proceed with your narrative.

AMICUS. After leaving Ballina the only place I stopt at before coming here, was Garrison. There I remained two days, which I passed pleasantly on Lough Melvin,—a lake inferior only to Loch Erne in its expanse and in the beauty of its wooded islands. The wind being light, I did not attempt salmon fishing; great part of the time there was hardly ripple enough for trout fishing: of the latter, however, I succeeded in taking some, varying in size from half a pound to a pound and half; and about one-third of the number were gillaroos,—a variety I had

never seen before. The boatman knew it by its appearance, the gillaroo being commonly thicker and of a richer colour than the common brown-trout. I opened all I took. The stomach I found to accord with the first descriptions given of it by Henry Watson and John Hunter,—not a true gizzard,—not provided with special grinding and crushing muscles, but merely with thickened coats, such as it is easy to imagine may have been produced by the action of hard food, as the incased larvæ and hard-shelled mollusca, with which the organ was in most instances distended. I was assured by the boatmen that this trout always breeds in the lake; they said, they were quite certain it was never taken in the tributary streams, the breeding-place of the common-trout. The small inn close to the lake, kept by honest, civil and intelligent people,—quite an angler's inn, I found very clean and comfortable, and every way well provided, even to the table, in a plain manner suitable to the habits of anglers. Of the remainder of my journey, that is, from Lough Melvin here, by Ballyshannon, Donegal, Dunglow, I shall not tire you with a description; for tiresome in truth I found it,—most part of the country through

which I passed being wild and dreary,—moorland and bay with mountains in the distance, these indeed not without a certain grandeur. Like Connemara, I may mention,—the district is singularly dotted with pieces of water, many of them of a size to deserve the name of lakes; and like it too, its coast is remarkably indented and penetrated by the sea, and skirted by islands,—so many natural breakwaters,—reminding one of Norway and its fiords; but at the same time with marked differences, especially in the absence of living trees; of dead trees, bog wood there is no want; and in the great extent of sand hills bordering the shore,—from which, the Norwegian coast, washed by a deep sea, subject to little tidal variation, is happily exempt.

PISCATOR. Can you at all explain the peculiarities you mention, and which are so striking on most parts of the coast of Donegal,—I mean the abundance of sand creating wastes in many places, overwhelming even houses and villages,—and the absence now of wood in situations where from their remains we are certain forests once flourished.

AMICUS. Perhaps old glacier action, with strong tides and a low coast, and strong winds,



and the granitic nature of the rocks subjecting them to disintegrate, may be connected with the one—the prevalency of sand; but the cause of the other, the total absence of wood, is to me a greater mystery. The former abundance would seem to indicate a difference of climate: yet, some of the bog wood *in situ* appears to be so fresh, that it is difficult to imagine it the growth of a very remote period. Can neglect, the want of enclosure, the depredations of cattle, the destruction by man of the old forests, with whatever intent done, serve to account for it?

PISCATOR. I am inclined to think they may in great part, especially as we are informed by the old historians that Ireland at no very distant period was a wooded country; and as we know that wherever trees are planted now, if protected and sheltered,—sheltered from the prevailing winds, protected from the depredations of cattle,—they do not fail to grow. Even on this wild coast, and the immediate neighbourhood of the hotel, there are tolerable examples in proof.

AMICUS. How we have digressed! favour me now with your travelling experience.

PISCATOR. Mine is soon told. On the second day after leaving Dublin,—of the first day's

journey I need not speak,—I reached Letterkenny. There I spent a few days, trying the fishing within a short distance of the town, chiefly in the river Swilly and the Leannan river, and Lough Fern, but like you without much success, taking in the rivers only some small trout, and in the lake a few trout, not exceeding half-a-pound each, but no salmon. This part of Donegal, especially that bordering on Lough Swilly, pleased me much; it has such a thriving improving aspect, so different from what we witnessed together during the preceding summer in Connemara,—no roofless houses, no appearance of desertion: and, I was assured, that even during the famine period, here there was little suffering,—which I attribute to a more active industry, to better landlords, and it may be to a better and more grateful soil. Here, too, and it may have been a heightening circumstance, I experienced kind hospitality from some of the resident gentry, to whom I had, from friends, letters of introduction, and in whose houses and establishments I witnessed very much the same order and keeping we should expect to find in England in families of the same condition, with the adjunct of the

charm of welcome, such as can only greet one where casual visitors are not of every-day occurrence. From former experience, I had anticipated some difficulty in getting on; but I found none, the noble proprietor of the inn where we now are, having established a daily communication from Letterkenny thus far by car. The road by which I came passes through Rathmelton, so euphonious in its name, and so charming in its situation, on the banks—and these in part wooded—of the pretty river and reported good fishing stream which runs out of Lough Fern,—but, *horrendum dictu*, it has some of the worst features of an Irish country-town,—houses out of repair, accumulations of filth, heaps of manure piled up in the rear of the dwellings, and between them and the high road beneath, in ignorance, neglect or contempt, of all sanitary rules and agricultural precepts. Its disorderly and unwholesome state was strongly contrasted with the residence where I had last visited, where all was order, neatness, and more than comfort; and yet the gentleman, the worthy proprietor, held the lordship of the town-land; but I was assured, in explanation, he had little influence in the town, owing to the houses being

all leaseholds. Another establishment in the neighbourhood was hardly less a contrast: it was a successfully well conducted iodine work, in which on a large scale, by a routine process, —I wish I could say with all the appliances of science,—this powerful medicinal substance is extracted from sea-weed, the abundant growth of the rocky shore of the district. Heaps of the exhausted ashes, here and there by the roadside brought from the works, to be used, I was told, as manure, marked the greatness of the undertaking. Another kind of industry, and one to which the country owes very much of its prosperity, was denoted by the defilement of the streams by the refuse of flax,—a crop largely grown and increasing,—after having been subjected in the mills to the process of scotching; —a waste this, it struck me in passing, which might be saved, (especially now there is a scarcity of the material for paper-making,) to the great benefit of the streams as fishing rivers, whether for trout or salmon. Beyond the neighbourhood of Rathmelton the character of the country changes: one passes rapidly into a wilder district, and increasing in wildness as one advances, and at the same time in boldness,

especially inland, where the mountain-chains and peaks of Muckish and Arigal,—the latter naked and storm-beaten, rising pyramidally, seemingly inaccessible,—impart to the waste an air almost of sublimity. As you were interested in the re-newed method of breeding salmon, by that process which has been called the artificial, I must not finally omit telling you, which I ought to have done at starting, of what I saw in Dublin and Kingstown, supplementary to that operation. In Dublin, at the office of the Inland Fishery Board, I was shown young salmon which had been hatched in Galway,—some only a few months old, little more than two inches in length; others about a year and a half. What was remarkable in these latter was their various sizes, the largest being at least twice as large as the smallest; and yet all were similarly treated, of about the same age, and appeared to be in excellent condition. Another circumstance worthy of note was, that none of them had yet acquired the silvery scale,—even the largest retaining distinctly the transverse markings of the parr, though exceeding in size the majority of smolts. They were fed principally on earth worms, which they devoured

greedily: this kind of food perhaps might have had some influence on their growth, promoting it, whilst it might have checked the change of scale. At Kingstown, another experiment has been instituted, which I had the pleasure of witnessing. There on the shore, within reach of the tide, an old capacious granite quarry has, by the erection of a sea-wall with a grated opening, been converted into a pond, designed for the rearing of the salmon fry, with the hope that it may become a profitable concern, and that in it, as in the open sea, in two or three months, smolts of two or three ounces will grow to be grilises of four or five pounds. Some ninety salmon fry taken from the river Liffey have been introduced: they had been there, when I visited the spot, about six weeks: those which I saw, I was assured were grown, but not, I think, in the degree expected. The fear is, that their feed will not be sufficiently abundant. The trial however is worth making, and whatever the result, it can hardly fail of being interesting.\*

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\* This experiment has failed: the author has been informed that the salmon fry have disappeared, and it is supposed, have been devoured by other fish in the pond; he has also learnt that most of the smaller young salmon,

AMICUS. In speaking of the process of artificial breeding, you used the word re-newed, seeming to imply that the method is not a new one.

PISCATOR. It is not. The method has been known to naturalists now nearly a century; and the world is indebted to a naturalist, a German, Lieutenant Jacobi for its discovery. Time after time his process, identical with that now in use, has been described. It has never been lost sight of; and yet till within the last few years, it has been little practised. In England, I believe, Mr. Boccius was the first to apply it to the breeding of trout. You will find the results of his experience described in a short treatise published by Van Voorst in 1848. An apparatus he has invented for the purpose, and for which he has taken out a patent, is worthy of notice and likely to be useful.\* In Scotland, it was

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those of about two inches in length, have been eaten up by the larger,—some thoughtless person having brought them together from their separate compartments.

\* He describes it as consisting of a box with apertures, so that water can flow freely through, and large enough to hold a series of trays; these with small square perforations, for holding the eggs (an egg on each); "the box weighted just sufficient to float on the surface of the water."

## TRIED IN SCOTLAND AND FRANCE.

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was brought into use by Mr. John Shaw, of Inverulanrigg, and by Mr. Young, of Inver-shin, the former commencing his experiments in 1836, the latter a little later. Their inquiries I have already alluded to: you will find an account of them, (and each is well worth perusal,) in the 14th and 15th vols. of the Transactions of the Royal Society of Edinburgh. More recently in France the process of artificial breeding has been engaged in by a peasant self taught in the art, ignorant, it is believed, of all that had been previously accomplished. Remy, the name of the individual, and Gehin his assistant, of the same rank in life, have successfully applied it to the re-stocking of several rivers which had become exhausted. Their labours have created a sensation amongst their countrymen,—have acquired them a well-earned reputation, and also a substantial reward and support from their government. Now let us stop; we can renew the subject at our leisure; the night is advancing: you will find here a clean and comfortable bed, though not “smelling of lavender.” To-morrow we should be up and stirring early.



AMICUS. Good morning. I am delighted with this inn; so much neatness, cleanliness, and comfort, with so little of display, the reverse of what one commonly meets with in Irish inns. I have not yet been able to detect anything broken, or out of repair, or applied to a purpose for which it was never intended.

PISCATOR. Nor will you, I think, during your stay. Now to our plentiful breakfast, of which some good fish, I am sure, will form a part. I have kept you waiting, and have to apologize. Having risen before you, and knowing there was half an hour to spare, I was tempted out, and tempted on by what I saw, and so interested that I forgot the time. Having been here before, some long years ago; I was struck with the various changes I now witnessed; rich pasture, where before there was bog; neat dwellings, and substantial, in the place of rude primitive cabins; divided and fenced fields, each tilled by its own tenant, before open and common; and, from all I could collect, a contented and well disposed peasantry, improving, though slowly, instead of the poor, wretched, and contentious race that previously

struggled for and with difficulty supported existence, working heartlessly on the old "rundale" or gavel-kind system. You will ask, how have these changes been effected? I can more easily tell you by whom than how. The benefactor of the district is the same individual to whom we stand indebted for this comfortable inn, viz. Lord George Hill. When he purchased the property, a few years ago, it was in the condition in which I first saw it. By his energy and skilful management, combined with just dealing and kind consideration for the welfare of the people, aided by a right-minded and clever agent, he has effected the changes I have had the pleasure to witness, and without ejecting a single family, or in any instance raising the rent. His improvements are immediate; his profits prospective, except from the two or three hundred acres which are farmed on his own account. Look out of the window, you will see his flock of sheep going to their pasture: how well they look! The stock of cattle, most of them stall-fed, are, I am assured, doing as well. The quantity of forage yielded by the well drained and richly manured land is very great, and is their support. The grass is the

fiorin, which is peculiarly well adapted to the soil and climate.

AMICUS. Has any account been published of what has been effected here, and which, from your brief showing, is so worthy of record?

PISCATOR. The noble proprietor has published some details on the subject, in a work entitled "Facts from Gweedore," and you will find an interesting, animated, and instructive description of the same in the "Dublin University Magazine" for January, 1853. Whilst we remain here, you must look about, see, and inquire; and I think you will be satisfied that the brief sketch I have given is nowise an exaggerated one.

AMICUS. Can you furnish me with any statistics?


PISCATOR. Only with a very few; for instance, the arable land, which in 1841 was 1057 acres, is now increased to 1517 acres; and, as the gentleman who has the superintendence of the property informs me, supporting a population of 2359 souls, with stock to the amount of 191 horses, 29 pigs, 1348 cattle, 3226 sheep. What the amount of stock was before he could not say: its increase, however, since 1841 is under-

stood to be considerable, and if so, the more remarkable, as the time includes the famine period.

AMICUS. Thanks. Let us be up and doing; we are forgetting our fishing. How fine is the view from this other window, in the direction, I hope, of our fishing-ground: the tranquil, full, and winding river, leading to the lake; and that moorland lake, bounded as it were by that grand hill—the naked and precipitous Arigal.

PISCATOR. That lake which we see is, indeed, one of the three which we shall explore to-day in our fishing excursion. The boat is waiting at the foot of the garden. Let us be off. You see even the garden is productive and flourishing,—another rarity in connection with an Irish inn. Before we step into the boat, let us put together our rods. Even in ascending the stream, we shall probably take some trout.

AMICUS. I enjoy this lake fishing; it is the luxury of angling: a gentle gliding from one run to another; constant change of scene; moderate exercise, and good sport. This upper



lake, Dunluighy, improves on the first and second,—Milliguir and Glentornan,—these, I think, you told me are their names. How pleasing is that bank of wood; and is not that a house amongst the trees, and that to the left a church?

PISCATOR. You are not mistaken; the house is occupied by a worthy family to whom the property belongs, and by whom the church has been built; it is of native marble. That wood of birch, oak, and holly which you admire has all been planted, and in its respectable growth affords proof, I think, that the climate and soil are unchanged, and that the destruction of the formerly wide-spread forests, now represented by bog-timber, was owing to other and special causes,—those, perhaps, which you conjectured.

AMICUS. Now our day's sport is over, before we land, let us count our spoil. Two dozen of brown-trout, half a dozen of white-trout, and one small salmon: altogether not less than thirty pounds of fish! This I call good sport; and I am rather surprised you should make light of it.

PISCATOR. We might have had better had not the wind failed us, especially in the upper

lake, where we killed the salmon, and where I expected to have killed more, for it is there at this season, viz. from July onwards, that they most resort.

To-morrow we will try the river, and with a chance of success, now that the water is clearing after the late rains.

AMICUS. What flies shall I use to-day in our river fishing?

PISCATOR. Be contented with one, and let it be this, which is almost equally good for salmon and white-trout. I am indebted for it to a skilful angler, well acquainted with the river, being a resident, and distinguished for his success. It is the smallest salmon-fly, perhaps, you ever saw. See how it is formed;—its body of black wool, ribbed with gold twist; legs of a reddish brown cock's hackle; wings of dark mallard's feather, or of the tail feather of the cock pheasant. This day's fishing will not be so social as yesterday's. Take with you our old boatman; he knows all the best pools in this river: the younger will attend me. I will follow you. We shall meet at a spot that I am sure will please you,—at the junction of

the river with the tide. Boatman, take my friend to the next good pool, that below the bridge, so that he may have a fair start, and that we may not be too close on each other's heels.

AMICUS. This is the junction you spoke of before we parted company. What a picturesque spot! The river pent up and gushing between the cleft lofty granite rocks; that deep, dark pool below; those foaming rapids beyond; and the still sea in that pretty rock-bound cove. The whole makes a charming picture; nor is it without enlivening objects;—the boat entering the little harbour with a cargo of seaweed,—that group of women occupied in washing under the shelter of yon lofty rock, and one of them truly a young beauty, and, take my word for it, not ignorant of her charms.

PISCATOR. Come with me to the upper rapid, and I will bring you in view of another animating object.

AMICUS. Surely in that whirl of waters the man is risking his life! Yet he seems to apprehend no danger. How he casts about his huge landing-net! Pray, what is he about?

PISCATOR. You will probably soon discover. See, he has "looped"—that is the expression—a salmon, a fresh-run fish of about eight pounds. How sturdily he bears off his prize!

AMICUS. It is an interesting sight, but surely a poaching practice.

PISCATOR. Right, and a very destructive one, for when the fish are running up, almost any number may be taken in the narrow rapids by this method; and it can be practised by night as well as by day. Now, tell me what has been your success?

AMICUS. I hooked two salmon, which escaped; one breaking the casting-line; the other getting sulky,—sinking in a deep pool, and somehow extricating the hook from its hold. The only fish I have killed are three white-trout and a few brown-trout. What has been your success?

PISCATOR. One salmon and double your number of white-trout,—the salmon not exceeding seven pounds;—in this river heavy fish are rare. I have sent the fish to the inn, that you may try the quality of the salmon of the Clady,—the name of the river.

AMICUS. It is a pleasant river to fish. Wading here is even less necessary than in the Erne,



and it is nowhere too wide. Below the falls in the tide way, I rose several large trout and took one—a brown one, of about a pound, in excellent condition. The boatman informs me that this is their special haunt,—where the fresh and salt water mix,—that they are always to be found here, and that the common belief is, that they are males or barren fish.

PISCATOR. This is not the only instance that has come to my knowledge of the common trout flourishing in brackish water. The feed here seems specially to agree with the trout: on that I apprehend its excellence for the table depends. As to the popular belief, it may be true or false; most likely false; and that the breeding fish escape notice by running up late in the season, after angling is over.

AMICUS. (*At dinner.*) Of the salmon and trout to which you have helped me, I hardly know which to give the preference to: they are both excellent; and the trout almost as red as the salmon;—a good example, you will probably say, of the effect of feeding. You have given me some information respecting the process of artificial breeding, which I see by the papers is

attracting much attention, and is on trial in many places, and yet is not approved by all who have given it their consideration, and have written on the subject; some even I find have objected to it as an abuse—as “a profane intervention with nature.” What say you to this? What is your opinion of its value?

PISCATOR. As to the objection,—it is irrelevant, inasmuch as the intention of the artificial process is to meet an evil,—that arising from the destruction of the parent fish when ready for spawning: it might as well be said that certain midwifery practices performed for the purpose of saving life, interfering with the natural processes, are unjustifiable, and a profane intervention; or that the improvement of fruit-bearing trees by grafting is wrong, or even the sowing of seed-corn. Those who object, be assured, either are not naturalists, or are ignorant of the manner in which the work of reproduction in the instance of fishes is conducted, and how briefly the parent fish are concerned in it. As to its value, I certainly think favourably of it, if employed with discretion and well conducted; and, provided—and it is an important proviso—that it is not made a substitute for the natural process, but only auxiliary to it. The danger

is that the proprietors of fisheries may become remiss in guarding the spawning beds, and in protecting the breeding fish and preventing their destruction, as on these they ought chiefly to depend for keeping up, or rather I should say, for increasing their stock of fish. The artificial method, I apprehend, will be found most useful as a means of introducing salmon into streams hitherto without them. But to accomplish this, many precautions will be required. The streams must be watched; obstacles to the descent of the smolts and to the reascent of the grilse must be removed, and the young fish in all their stages must be protected.

AMICUS. I am glad that you, at least in part, approve the use of the artificial process. It seems to be the privilege of man—and it is a high one—to have control, or, as strongly expressed in Holy Writ, to have “dominion over the fish of the sea, and over the fowls of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth on the earth.” One advantage of this process, if I am not mistaken, you have not alluded to, viz. its fitness to make us better acquainted with the habits and economy of the migratory Salmonidæ.

PISCATOR. Certainly that is an advantage,

and we have ample proof of it in the light already thrown on the subject, and fresh proofs are not wanting, from following it, indeed they are almost of daily occurrence. Here is an extract I have just received from the "Daily Mail" of the 27th October, 1854, which you can read at your leisure, describing how in the salmon pond near Stormont Field on the Tay, the young fish from ova obtained in November and December, were, at the time mentioned, owing to good feeding, advanced in size over those of the same age in the adjoining river; (the former from five to six inches in length: the latter from two to three, and the former it is said "to all appearance beginning to put on their smolt scales,") and so tending to show, according to a previous statement, that the salmon fry, when having abundance of feed, migrate to the sea in little more than twelve months; and in accordance with Mr. Andrew Young's opinion, that their longer duration in fresh-water is owing to deficiency of food, checking their assuming the smolt form marked by the silvery scale.

AMICUS. Are there any special precautions required to insure the success of the artificial method?

PISCATOR. Some are advisable, indeed are necessary. I shall mention a few circumstances. And first of the quality of the water to be supplied to the ova: the purer and clearer it is, the better; and it should be in a constant un-failing stream, and of a pretty equable temperature, equally protected from being frozen and from being unduly heated by the sun's rays; the latter, however, considering the season of the year, the spawning season, little to be apprehended. Next, of the gravel on which the ova are to be laid: it ought to be clean, free as much as possible from all coarse adhering matter whether animal or vegetable. So important is this point, that none should be used before being subjected to careful examination. Thirdly, of the roe and milt: these of course should be both quite mature, and obtained from living fish, and be mixed immediately after their expulsion. The test of their maturity, is the liquid milkiness of the milt, obtainable on the gentlest pressure, and the same facility in obtaining the ova;—the ova when ripe being detached from their ovaries, and loose in the cavity of the abdomen.

AMICUS. Why need there be so much attention paid to the gravel that is to be employed?

**PISCATOR.** Mainly to escape as much as possible parasitical vegetable growths, and the attacks of the larvæ of aquatic insects. If a mucor or byssus form on the eggs, to which there is a great tendency, whether dirty gravel or impure water be used, the effect will be fatal to the ova. And if larvæ be not excluded, the result may be as bad;—they, especially the larvæ of the May-fly, attacking the eggs and actually devouring them: an instance of the kind has been recorded in which a total failure of the artificial process on a large scale was owing to this circumstance. In the arrangements for the process we cannot do better than keep in mind the conditions under which the natural process is conducted. It is chiefly the clear mountain-streams which the fish resort to under the procreative impulse, and it is in the hungry waters and well-washed gravel of such streams that they commonly form their spawning-beds. The first aphorism of Bacon, beginning “*Homo naturæ minister,*” should altogether be our guide in this operation, which is one of imitation not of intervention.

**AMICUS.** You speak of their spawning-beds, and you before mentioned a furrow being made

by the fish for the reception of the eggs. In a work I have lately seen, "Scandinavian Adventures," the author, Mr. Lloyd, gives an account of some observations, seemingly deserving of credit, affording proof that in Sweden, at least in the Sava, a tributary of the Gotha, the breeding salmon makes no furrow, discharging her ova on the gravelly bed of the stream without any preparation. How does this accord with your experience?


PISCATOR. It is not in accordance with the experience of all those most deserving of confidence, who have witnessed and described the spawning operation in our rivers. If it be a fact, free from all fallacy, I am disposed to consider it an exceptional one. Pray call to mind what I stated when conversing on this subject before, and how admirably adapted all the circumstances appeared to be which are concerned in the process.

AMICUS. In coming here, about three short miles from this place, I crossed a river called the Crawley, in which I was told there is good salmon and white-trout fishing. Have you ever tried it?

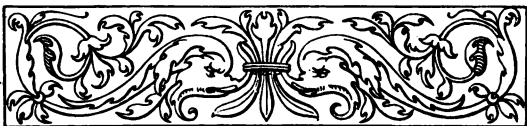
PISCATOR. I have fished it, and if you please

we will go there to-morrow, should there be a good wind, for as it is mostly a sluggish stream, a brisk stirring wind is essential. Its white-trout fishing is better than its salmon fishing; and even the first is not of the best kind. Like most rivers, its repute, whether near or distant, like that of the one we fished to-day, is greater than deserved, giving rise, in consequence, to disappointment on actual acquaintance. That these two rivers in particular are not better is not surprising, considering the acquired habits of the native peasantry,—how partial the attempts that have hitherto been made to prevent irregular and unlawful fishing, and the great facility of poaching.

AMICUS. May we be favoured with wind and luck to-morrow, our last day; and may we meet here again at some future time, for though the fishing these two days, especially the last, has not quite come up to my expectations, other things,—this comfortable hotel,—the wild beauty and grandeur of the scenery,—the singular condition of the people in transition under an improving system,—have, and indeed have rather exceeded them.







## COLLOQUY IX.

*Grayling fishing. The Teme, Bromfield,  
Shropshire.*

AMICUS.



WHEN you invited me to meet you here, you tempted me by the promise of good grayling fishing in a country worthy of it,—recalling, especially as you wrote disparagingly of the trout of the Teme, a former remark of yours, that there is commonly some relation between the scenery of a district and the kind of fishing its waters afford.

PISCATOR. When you are better acquainted with the river, its character and scenery, I am confident your own observations will accord with and confirm my remark. That there should be such a relation as that you allude to, is no more than might be expected. We see more or

less of it throughout nature, in plants, in animals, and even in the human race: no doubt wisely ordained.

Having through the kindness of a friend obtained leave for both of us to have a few days' fishing in this charming river, and in a good extent of it, if we have any success, you will be able to compare the two kinds of fish and judge of their qualities. The keeper is waiting to introduce us to the grounds of Oakley Park, hard by, where we will commence. He has promised to unlock the gates to give us free passage, and as his accompanying us would be a mere useless form, we will give him his *douceur* and dismiss him. The boy from the village will attend you with a landing-net, and he will point out the parts of the stream you should fish.

AMICUS. As to my tackle and flies! What would you recommend?

PISCATOR. Your tackle cannot be too fine. Allow me to see your book? This casting-line of delicate gut will answer; and try these flies, which you have told me you got at Shrewsbury. They are all duns, of good colours, and well made, and not too large. The grayling, let me tell you, is a more fastidious fish than the trout,

and, in consequence, not so easily captured. His manner, too, of taking the fly is different; more deliberate in his movements, it does not make a dash at its prey like the trout, but approaches it slowly, and as it were sucks it in. Another peculiarity is, that his mouth is tenderer; the hold of the hook, when hooked, less firm, and consequently in striking a delicate hand should be used, and the landing-net should be employed whenever the bank is the least steep, or rather, I should say, always irrespective of the kind of shore. Now we will part to meet at a late dinner. Do you follow the stream in its course; I will go in the opposite direction. I choose for you, knowing the river, and that the part I have assigned you being better preserved,—it is the reserved water,—your chance of success will be so much greater; and pray do not be seduced by the beauty of the grounds to neglect your sport, or to fish carelessly.

PISCATOR. (*Meeting again.*) Well, what has been your sport? Your basket does not appear to oppress the shoulder of the lad.

AMICUS. I have spent a most pleasant day. Your parting caution was not uncalled for. Rarely have I seen so much beauty, or of a

higher order of its kind. What noble trees are those "Druid Oaks," so grand in their decay, and venerable! How fine and well assorted the other trees which bear the old oaks company on the slope descending to the river! How happy the admixture of grove, shrubbery, and garden! I thought of paradise and its oriental import, in going through the walks from one portion of the river to the other.

PISCATOR. The garden and shrubberies, intermixed with clumps of trees, between the house of the honourable proprietor and the river, are a good specimen of the kind,—a good example of ornamental planting, where the ground and all the circumstances are favourable, as they specially are here. But you have not answered my question as to your success.

AMICUS. That has not been great, and yet equal to my expectations. I have taken half a dozen grayling, and three trout,—the largest of each not exceeding a pound. I cannot say I fished very assiduously. The charm of the scenery in part diverted my attention. Moreover, a portion of my time was occupied in experiments on the fish,—for I have come to the conclusion, that inculcated by you in your ex-

ordium,—that to make angling most interesting, it should not be dissociated from science. Before setting out on this excursion, I had been reading an account of the grayling in Mr. Yarrell's "History of British Fishes," and in Bloch's "Ichthyology." From the statements in each there seems to be a doubt whether the grayling is capable of enduring brackish water, so as to admit of its migrating to and from the sea, as asserted by Richter. For my own satisfaction, I got from the gardener a large basin and some common salt, and having brought it to a spot where small grayling were rising freely, I filled it with water, adding salt enough to render it brackish, and into this I put the first young grayling I caught,—one that was only very slightly hooked, and nowise injured, and within a few seconds of its being taken from the river. The fish did not seem to mind the change: it swam about freely, as it did when I last saw it, three or four hours after it had been taken. I had the basin covered, to prevent its jumping out, with the intention of returning to it to-morrow. Here is a portion of the brackish water in which it has been immersed. I have with me the apparatus necessary for ascertaining its specific

gravity. See, on trial, it proves to be 10,062 to water as 10,000. Another trial I made was of the temperature of the grayling as measured by the thermometer. The bulb was introduced into the stomach the instant the fish was taken; in one it rose to 54°, when the water was 52°; in another instance to 53°, when the water was 51·5°. Each fish was of about half a pound.

PISCATOR. I congratulate you on the commencement of your ichthyological inquiries. Now, I am sure, I may claim you as a brother of the angle! I hope you opened some of your fish, and examined the contents of their stomach.

AMICUS. I did. In the stomach of one of the larger grayling I found river snails; in that of a small one, many small black flies. I observed that the young fish rose more freely at the artificial fly than their elders. May not this be owing to the old fish feeding more at the bottom, preferring the coarse and more substantial food which they find there?

PISCATOR. Probably so, and in confirmation I may mention, that the largest fish—grayling exceeding two or three pounds—are rarely taken

with the fly. The most deadly bait for them is the grasshopper and maggot.

AMICUS. Now tell me of your doings and success.

PISCATOR. That is summed up in ten grayling and eight trout. I opened them all. In the stomachs of the trout I found chiefly incased larvæ and various insects; in those of the grayling, snails,—*Physa fontinalis*,—the same as you found, and insects and coarse gravel. Their procreative organs were in very different states: in the trout, the roe and milt were nearly mature, as might be expected now, in the last week of October; in the grayling, the roe was only granular, and the milt a slender cord. Before we take the fish to the inn, and transfer them to the care of the cook, let me call your attention to some of the peculiarities of the grayling. And, first, smell to it. Do you not perceive a smell, though faint, a little like that of thyme? Whence its specific Linnean name, *Salmo Thymallus*. Observe its eye, its pointed pear-shaped pupil. Observe its mouth and small feeble teeth, and its upper projecting lip. Here is a small one, only about five inches long,—called a pink, supposed to be only a few months

old, though, judging from the analogy of the young of true *Salmonidæ*, more likely to be over twelve months; you perceive it has no transverse bars, no markings distinguishing it from older full grown fish.

AMICUS. Pray stop. Do not proceed further with your history of the fish at present, lest I should consider it more fitted for the museum than the table; and I have a desire to taste it, and with relish. Whilst we are walking to the inn, tell me of that part of the river you fished.

PISCATOR. Of its kind, it was as charming as yours,—nature taking the place of art. The greater part of the way I fished was within the limits of the park,—so well called Oakley Park,—the oak its pride,—an excellent example of the old English park. To-morrow, in going to Leintwardine, we shall pass through it, and I am sure you will enjoy it. With its many alleys green, bushy dells, and bosky bourns, it can hardly fail to remind you of the scenery of Milton's "Comus," which, you know, was performed in the neighbouring castle of Ludlow, and if not written on the spot, doubtless with a knowledge of the country. The last time I was here, we came from Leintwardine without a



guide, lost our way, and were benighted, and realized finely the solemn time and landscape of that beautiful poem: moreover, on our at length reaching Bromfield, we witnessed a relic of an old custom, which might have offended the severe Poet, and given him the idea of wassail-rout, so vividly described in *Comus*: I allude to the yearly village wake or revel, as here called, that night observed, and which was kept up to a late hour, with dancing, drinking, and boisterous merriment.

AMICUS. In your letter you did not mention this little inn. What a place of comfort it is! What an excellent dinner we have had, and how neat and nice our bed rooms! If this had been a resort of Izaak Walton, I could imagine it unaltered, for everything here has, without decay, an air of antiquity. And then the village, consisting of its few scattered hamlets, with the old and picturesque church, and even more picturesque school-room, over the archway,—a fine specimen of mediæval crosstimbered architecture,—is in perfect harmony and keeping.

PISCATOR. The Clive Arms is deserving of your commendation, and so are the worthy peo-

ple who keep it. The gateway with the school-room which you admire was the entrance to a Priory, of which now little remains, but the old church. According to tradition the Druid oaks which have outlived it, were noble trees at the time of its foundation, and a part of a forest from which the timber was obtained for its erection, dating from the eleventh or twelfth century. What think you of the grayling and trout?

AMICUS. That the trout is inferior to the grayling, and the grayling not unlike in taste a whiting; and what seems to me curious, the trout has a considerable resemblance to the grayling, cuts nearly as white, and differs little in taste or in degree of firmness. Now, I shall feel obliged to you to give me some further particulars respecting it, and especially how it differs from the trout and the true *Salmonidæ*, that being an expression you used, as if the grayling did not belong to the family.

PISCATOR. Some of our best naturalists, in consequence of its obvious and well marked points of difference, have separated it from the *Salmonidæ*, considering it as one of a natural group, of which there are several species, bearing a close resemblance to each other, such as

the Schelly or Gwyniad in England and Wales, the Vendiss in Scotland, the Pollan in Ireland, besides many foreign species to which in common the generic name of *Coregonus* has been applied;—indeed comparing the grayling with the true *Salmonidæ*, it may be said to differ in almost all respects but one,—which one has been made the connecting link, viz. the small supplementary adipose fin, that posterior to the great dorsal fin. You see how in its general appearance it differs from any of the trout or salmon kind. I have already noticed some of its peculiarities. I may direct your attention further to its large dorsal fin, and internally to its large air-bladder. By means of the one it readily descends; it is less a surface fish than the trout: by means of the other its ascent is facilitated. In its time and place of spawning it differs from the trout; not running up into the small streams for the purpose, but remaining in the broad shallows of the river; and its spawning period, not being the beginning of winter, but the advanced spring, April and May. Its ova too are of a smaller size, about half that of the trout or salmon, and in consequence proportionally more numerous. Forty days, it is stated by Mr. Boccius, is the

time required for their hatching. Its haunts likewise are different. In this country it is never found in the mountain stream, or in small brooks. It has no disposition to leap falls, or to quit its native streams. The rivers most suitable to it are those like the Teme, rather sluggish than swift, with deep pools connected by moderate rapids, subject to no very great fluctuations, either as regards volume of water, or temperature, running through limestone districts and fed by springs gushing from limestone rocks,—rivers in which throughout the year there is abundance of feed. Abundance of food seems to be essential to this fish; and having no hibernating propensity, feeding at all seasons, it is always in condition, though in highest in winter, and least after spawning, especially the female. It differs too from the trout in being less vivacious,—less tenacious of life. It soon dies, if put into a well, where the trout lives and flourishes; and in consequence, its habitats are far more limited. I am not aware that it has been found in any lake, at least in this country; and I have heard of an attempt to introduce it into a pond as unsuccessful. Even the number of rivers in which it occurs is inconsiderable, and

in the United Kingdom confined to England and Wales, being unknown in Scotland and Ireland. The popular belief is that it was not originally a native fish, but, as already remarked, was imported from the Continent and by the monks,—which is not improbable. In consequence of its very limited range the conjecture has been thrown out, that the quality of the water may be concerned as regards its limit. The examination I have made of the water of the rivers it haunts, and of others tributary which it avoids, is not in favour of this notion; for instance, the water of the Derbyshire Wye, and of the Lathkill, which joins it, the one celebrated for its grayling, the other, the Lathkill, for its trout. I found each very similar in composition; both were comparatively hard from the presence of carbonate of lime in solution. My belief is that other circumstances, rather than the quality of the water, have most influence, whether in attracting or repelling the fish: thus in the instance of the Lathkill, the impediment of its falls; and in confirmation I have been assured by the keeper on that river, that the grayling passes from the Wye into it, and is met with as far as the first fall, one that trout readily ascend—but is met with no farther.

**AMICUS.** And thus we come back to the relation between the scenery of a district, and the kind of fishing it affords. I like the general proposition, and hold this to be a good illustration of it. I shall now always associate the grayling, not with the mountain and moor, the grand and wild, but with park and meadow, the cultivated valley and rich pastures.

**PISCATOR.** And, not incorrectly, provided you restrict yourself to the grayling and its rivers in England. On the Continent you would find exceptions: there, it is an Alpine fish; and yet even there occurring only in streams which have the same fitness for it as those of this country; and in our walk to-morrow you will see a kind of exceptional example in the deep glen and wild rapids connecting the upper valley of Leintwardine with the lower one of Downton.

**AMICUS.** Before leaving Bromfield, I must pay a visit to the grayling left in brackish water yesterday under the care of the gardener at Oakley Park. Do accompany me.

**PISCATOR.** No persuasion is required: were I not interested in the result, I should have pleasure in the walk through those charming

grounds and most charming gardens,—a resort of beauty as well as of fish,—and, now the family is not here, a beautiful solitude.

AMICUS. See here is the little grayling, and now, after nearly twenty-four hours, it is alive and active.

PISCATOR. It is a good result, and it induces me to attach more importance than I previously did to the statement of Richter, that the grayling has migratory habits, and passes its time partly in fresh, partly in salt or brackish water, such as that of the Baltic. The subject is deserving of further inquiry, especially if the northern naturalist be correct as to the species of *Coregonus*, whether a true grayling or not. Now let us make the best of our way to Leintwardine.

AMICUS. Shall we not fish by the way?

PISCATOR. A few years ago this would have been practicable and delightful. I allude to the time when the late proprietor of Downton Castle was alive. From him leave could easily have been procured, and a courteous reception; and you might have had the double pleasure of some excellent angling, and of witnessing the results, in improved varieties of fruits in his

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gardens, of the researches of this accomplished and ingenious man in vegetable physiology applied to horticulture. Since his lamented death a change has come over the scene: the castle for several years was unoccupied, the proprietor living at a distance, the gardens and grounds were little cared for, and even the river not well preserved, and consequently much poached. Recently the building has found a resident, a gentleman fond of angling, and anxious to improve the fishing: liberal as he is, we must not task his courtesy in asking for leave; we will do no more than pay our respects in passing, and look at, as you are an admirer of pictures, a very interesting Raphael\*—a portrait of wonderful effect by that great master,—one of a collection belonging to the house. Fishing we

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\* “A portrait, half-length, of Bernardo Divizio da Bibbiena, Cardinale di Santa Maria, in Portico, the friend and patron of the artist, sitting at his desk, surrounded by books, hour-glass, &c., date, 1513.

“Purchased at Rome from the heirs of the Cardinal’s niece (whom the painter was to have married), on the approach of the French under Buonaparte, by Mr. Graves, brother of the admiral of that name. Painted on thick poplar pannel.”—*From MS. of R. P. Knight.*

For this notice the author is indebted to his respected friend Mrs. Stackhouse Acton.



will not attempt till we reach our fishing quarters. There I expect to meet a gentleman, one of a club of twenty who rent about three miles of the river below Leintwardine. In company with him, according to the rules of the club, a stranger may fish; and probably we shall find another member willing to show the same favour, so that neither of us will be excluded. The rule may seem irksome; but I dare say it is necessary, and it is less irksome than you would imagine, for after bringing you to the river side, you and your friend may part company and fish independently. As we proceed do not you recognize the truth of the descriptions in "Salmonia" of the more remarkable features of the country? The author and the late proprietor of this beautiful property were old friends; and in his account of both, of the scenery and of the man, he has felicitously succeeded in doing them justice. I am glad that we read together last night his chapter on the grayling; and let me advise you to read it again and again whenever you set out on grayling fishing. In no book on angling with which I am acquainted will you find a better account of the fish, or ampler details regarding the best

mode of catching it, exclusive, of course, of poaching practices.

AMICUS. I hope we shall find the inn at Leintwardine kept by the same worthy host and hostess commended in "Salmonia."

PISCATOR. There, too, is a change. Remember it is now rather more than a quarter of a century since that book was written. We shall find, judging from my experience two years ago, no want of ordinary civility and tolerable accommodation,—not to be complained of, but at the same time hardly meriting praise, or bearing comparison for comfort, whether of bed or board, with that at Bromfield, which we have just left, or with that of Rowsley, the Peacock in Derbyshire, where I hope we shall next meet in pursuit of the same fish. And, whilst I remember it, let me recommend you to read, preparatory to it, a paper in the Dublin University Magazine, the number for July, 1854, entitled "A Ramble in Charles Cotton's Country," in which you will find a pleasantly written account of most that is worthy of notice in that delightful, and to the angler classical country. It is, I may mention, "in tenderness and friendship," from the pen of a worthy

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friend of mine, himself an angler and a genuine disciple of Izaak Walton. And, it was in his pleasant company and under his experienced guidance, that I first explored, rod in hand, the charming vallies of the Wye, the Rathkill and the Bradford,—one day, or part of a day, turning aside to view the modern splendours of Chatsworth,—another, to see and admire the impressive remains of a bygone age so well preserved in Hadden Hall.



## •COLLOQUY X.

*Charr and Trout fishing. Hawes-water,  
Westmoreland.*

PISCATOR.



WELCOME to Bampton Grange and the Lake District, of which we are now on the outskirts. On your way by rail from Lancaster to Shapfells, you must have seen the mountain barriers on your left in the distance; and from Shap to this village, if observant, you may have noticed, through the opening between the hills in the deep valley, the lake we are to fish, and where, if wind and weather favour, we shall be well repaid for coming so far.

AMICUS. Coming from the great city at this hot and feverish season of London life, such as you know it is in June, I looked with wishful eyes towards that fine line of mountain to which

you allude : it reminded me of past times, and stirred up in my mind pleasant recollections and fancies of the deliciæ of mountain scenery, the cool air, the refreshing breeze, the rippling stream, the thundering cataract, and more beside, which you can well imagine : and, since leaving the rail, in the short drive of five miles over the green pastoral hills, I have had a foretaste of the expected pleasures. The driver of my car told me that Bampton Grange is no less than two miles from the lake. Is it not an inconvenient distance ?

PISCATOR. It is : but it is unavoidable. This is a secluded part of the Lake District, out of the way of ordinary travellers, and consequently provided with little accommodation for tourists, or even for anglers. On my first visit,—it was with a friend, now, alas, departed, a soldier and a poet, and as gallant as the soldier-poet whose lays he so well translated, the chivalrous Camoens,—feeling then the inconvenience of the distance, we—to use a military phrase of his—beat up for quarters at every decent house we passed between this and the lake, but all in vain. But be comforted, two miles is no great distance ; and is little felt where the road is

pleasing : moreover, if you choose to leave the road, you can get to the lake by the river side ; and a charming walk it is,—a succession of pretty meadows and woody banks,—the river itself, in its falls, pools, and rapids, all the landscape painter could wish, and not without fish, brook-trout and some salmon-fry, for the amusement of the angler.

AMICUS. This village inn is not very promising, and in the seclusion of the place, I infer we shall fare but ill.

PISCATOR. So thought the hospitable friend with whom I have been staying : he knowing that even good angling needs attention to the “creature-comforts” for enjoyment, sent with me a well-stocked basket, the pigeon pie in which will make us tolerably independent of the casual supplies of the place, and as, fortunately, good bread, butter, milk, and eggs are not casual here, I think we shall do pretty well, to say nothing of the excellent fish which we intend to capture. The rooms we shall find clean and neat, and the beds tolerable. I have seen the keeper, and shown him our written leave ; and to-morrow he will be ready at an early hour with his boat. I have made arrange-

ments with him too for our having breakfast at the boat-house, he providing milk and we the tea and substantial.

AMICUS. How pleasant is the early morning. We seem to breathe a purer air. How near, sharp, and distinct distant objects appear. And what a well-marked transition we have, as we proceed, in the landscape, from the cultivated to the wild, from a hilly to an almost mountainous region. That I may not be altogether unprepared for our day's fishing, pray tell me what fish there are in the lake.

PISCATOR. The kinds of fish are more than are usual; there are, without including minnows and thornbacks, five, viz. trout, charr, schellies, perch, and eels.

AMICUS. Are there no salmon or white-trout or their fry, seeing that there are, as you told me, salmon-fry in the river?

PISCATOR. A fall of the river prevents the access of salmon. Even in the river, though there is no scarcity of fry, the salmon is rare, and is only seen during the breeding season, affording proof how very prolific this fish is, and how, by a careless observer, its rareness might be

adduced in proof of the parr being a species distinct from the salmon.

AMICUS. I infer that our fishing to-day will be exclusively for trout, as, from what I have read, it would appear that the charr rarely takes the fly, and the schelly never.

PISCATOR. As regards the charr, the authorities whom you have consulted could not have been acquainted with this lake, for the charr of Hawes-water often rises freely at the fly, as I trust we shall find. I have heard of two anglers in one day killing here, fairly fishing with the fly, nine dozen of charr, and what is remarkable, without taking a single trout. See, the boat-house is in sight, and smoke is rising from its chimney, betokening the preparation going on within. Is not this a charming lake? How boldly the ground rises on each side! That side, wooded; this, naked meadow land and green pastoral fell. The wooded part is Naddle forest; and that dark mass of rock frowning over the lake is Wallow Crag.

AMICUS. The lake is charming this fine morning, and pleasant are the meadows stretching down to the water's edge on this side, with a farm-house here and there, betokening comfort



and prosperous industry ; but I do not admire the forest.

PISCATOR. It is of native wood, and neglected. As a lover of fine trees, before you leave the country, you should visit Lowther. There you will see noble trees ; but they have had care and culture ; whilst in the so-called forest, the only care taken has been of the game. The keeper is beckoning to us. Our breakfast must be ready.

AMICUS. I have never more enjoyed a breakfast,—thanks to the pigeon pie and a sharp appetite from our early rising and morning walk.

PISCATOR. And, should you not add, thanks to our art ? For had you not become an angler, you could hardly have had such enjoyment. Now, to our sport. The boatman, the keeper, has finished his breakfast, and the boat is ready.

AMICUS. What flies had I best use ? The water, I perceive, is clear, and there is little wind ; so I infer that they should not be large.

PISCATOR. That is in accordance with a received rule, though I am not sure it is well founded. I am sceptical about rules, and a free thinker in angling ; and so, I hold, all genuine

anglers should be ; not indeed disregarding the experience of others, but testing it by their own, and endeavouring to attain reliable facts,—not an easy matter in this our tentative art. One rule, however, as regards this lake, which I can warrant, is, that you cannot fish too fine. So in the first place choose a fine casting-line.—Here are three flies, which are worthy of trial, all of medium size. This, a Broughton-point, as it is here called, very like a Hawthorn fly, except that its head is warped with red silk, may be the tail fly ; this, the woodcock,—a hackle fly, of woodcock's feather with hare's ear dubbing, may be the first dropper, and the Hawthorn the second. I shall try fancy flies.

AMICUS. Is not that another boat approaching ?

PISCATOR. It is ; and in the burly figure in its stern, rod in hand, I recognize an old acquaintance,—a substantial yeoman and farmer, who resides in the picturesque old farm-house that I pointed out to you on the left of the road. He is a keen angler ; has fished this lake, as he told me, boy and man, fifty years, and now never changes his flies ; being of opinion that if the fish are in a taking mood, that is, in quest of flies,

and not feeding at bottom, they take any fly,—at least such as he uses; and there may be some truth—though I would hope not the entire truth—in his opinion, insomuch as it tends to check enterprise and dishearten skill.

AMICUS. This is good sport we are having: we have already taken a dozen pretty trout and half a dozen charr. Keeper, will you take my rod, and fish, whilst I examine them. I shall commence with the charr, which interests me most, being new to me. Comparing it with the trout, I perceive it is a more delicate fish,—more delicately formed, with smaller scales and smaller teeth; and the internal organs of two or three I have opened appear to correspond, especially the stomach, which is smaller and thinner than that of the trout. From what I had read, I expected to find it thicker and more like that of the gillaroo.

PISCATOR. So you have found it stated in “*Salmonia*,” and I have no doubt correctly, restricting the remark to the author’s own experience, which in the instance of this fish was, I believe, collected principally in Southern Austria. Our charr, I mean the charr of the Lake District, and I may add, of the Irish lakes, so far as I

have had an opportunity of observing, have invariably a thin stomach.

**AMICTS.** As in the instance of the gillaroo trout, may not the difference depend on the mode of feeding. If I recollect rightly, in "Salmonia" it is stated that the food of the charr is principally shells and the incased larvæ of insects; and also that it is rarely, extremely rarely, taken with the fly. Now, in the stomachs I have just opened I have found only small flies and the remains of flies, and the circumstance of this fish being here commonly taken with the fly, seems to show that flies form a part at least of its ordinary diet.

**PISCATOR.** Your conjecture is not improbable, and yet doubts may be raised about it. The gillaroo, you know, feeds on winged insects as well as on hard-shelled mollusca; and the charr of some of our lakes are so seldom taken with the fly, that in common parlance we are told they are never so taken, and I have found shells in their stomach, and yet the coats of their stomach have been thin. Our knowledge of these fish and of the influence of varied food on the stomach is not, I apprehend, sufficiently minute to enable us to explain in a satisfactory manner

the organic peculiarities we are considering ; and in strictness the remark may be extended to the gillaroo. Were mere hardness of food sufficient to have the effect of thickening the stomach, we might expect to witness it exemplified in a remarkable degree in the instance of dogs feeding on bones, and in the hyena, yet, we do not. Peculiarities of form in plants and animals not unfrequently originate without any apparent cause and become permanent,—in the latter hereditary : so it may be in the organs of fishes.

AMICUS. As you said to my conjecture, so I may say to yours, now that you are enacting the sceptic, that it appears not improbable ; but from its nature I fear, it must remain always without proof. Mr. Yarrell in his *History of British Fishes*, describes two kinds of charr, and considers them as altogether distinct species, the Northern charr and the Welsh charr. Do you admit the distinction as well founded ?

PISCATOR. With all due deference to so good an authority, on this point too, I am disposed to entertain doubt. To me it seems more probable that the two are merely varieties. The somewhat larger teeth of the Welsh charr compared with the northern, and a slight difference in the

form and proportions of the gill covers, are, it seems to me, hardly sufficient to constitute a species, and it is on these chiefly that he insists. If we compare the charr of this lake with that of Windermere, or that of the latter lake with the charr of Crummock-water, we shall find, with a certain general agreement, as great a dissimilarity, or even if we compare individuals from the same lake, but at different seasons and from different parts of it. The charr of Windermere is a much stouter fish than that of this lake, and its teeth are less incurvated, and smaller in proportion to its size. Compared with that of Crummock-water, its fins are shorter, its head broader and less pointed, and its tail less forked. In Windermere two kinds of charr are locally recognized, the silver and the gilt charr—a distinction resting in difference of colour, a quality which we know to be variable in the family of the Salmonidæ, and therefore nowise to be relied on for determining species. Were the naturalist to attend to colour and spots, or markings, as many species of charr might be established as there are localities in which it is found, inasmuch as the charr of each lake has, as regards colouring and spots, something peculiar.

KEEPER. I have a fish which is neither a trout nor a charr. Surely it must be a schelly. The landing-net, if you please, Sir. It is a schelly, and it is the first I have ever taken with the fly, and the third or fourth only that has been so taken within the memory of man.

AMICUS. How fortunate I am to have witnessed this unusual capture. For some time I have had a desire to see this fish, and to compare it with the grayling. At first sight how close is the resemblance. This fish is, I suppose, about half a pound in weight. It is more uniformly gray than the grayling, with a darker back, and it has not the rich colouring or the thymy smell of that fish. Its scales, too, are larger; its fins, at least its principal dorsal fin, not so large; and counting the spines in this fin, I find they are fewer than in the corresponding fin of the grayling: in this there being only twelve or thirteen, whilst in that, if I recollect rightly, there are seventeen or eighteen. As to teeth, I cannot find any; its mouth within is quite smooth: but, perhaps, I am too hasty,—the end of the tongue feels rough, and now I use a magnifier, I perceive there are a few very minute teeth. I shall now open it. Here is

its stomach, divided into two compartments, as it were,—the lower rugose. It is small. I can detect nothing in it but a few small flies. I perceive by its ovaries that it is a female;—the ova about the size of grape-seed. Pray, when and where does it breed, and what is supposed to be its ordinary food?

PISCATOR. The examination you have made proves that it sometimes feeds on flies. The artificial fly with which it was taken was a small one: were small flies mostly used in angling here, which they are not, probably its capture would not be so rare an occurrence. Of its ordinary food I cannot give you exact information, never having had an opportunity of examining the contents of its stomach. Probably it subsists chiefly on larvæ, squillæ and infusoria. Of its spawning place and time I can speak more precisely. The time is September; the place the lake itself, some weedy shoal. When I was last here, I made special inquiry on the subject. I then learned from our friend the keeper here, that in that month he had found its ova deposited on aquatic weeds; and having transferred some of them to a basin of water, which he changed daily, he



succeeded in hatching them, and so verifying their being the young of the schelly. He is certain, too, that they have never been found in the tributary streams, the resort of the breeding trout, or in the river flowing out of the lake.

AMICUS. Allow me to repeat the same questions respecting the charr: when and where does it breed?

PISCATOR. On the same authority, I can answer much in the same manner; its spawning month here, according to him, being September, and on shoals in the lake.

AMICUS. The state of the ovaries in one or two female fish I opened, might indicate as much; the ova were about the same size as those of the schelly.

Pray, what is the habit of the charr, generally, as to its breeding-place? From its analogy to the trout, I should have supposed it would, after the manner of the trout, prefer for its spawning-bed the quick running stream, and a good naturalist and angler, with whom I have conversed on the subject, is of that opinion.

PISCATOR. Analogies are plausible, but they are not always to be relied on; it is well when they lead to inquiry; they should not be resting-

places. From all the information I have been able to collect,—and I have made it a special subject of inquiry,—the charr, in most instances, does not leave its lake for the purpose of spawning. Remember it is not a river fish; and as a lake fish it is one of great delicacy. The only instances that have come to my knowledge of its choosing the river in preference, are two; and these, I think, can hardly be called exceptions: one is in the instance of the charr of Windermere, some of which, not the majority, run up a little way into the Brathay, and deposit their spawn on its weedy rocky bed in its widest part, where it expands so as to form almost a little lake. The other is in the instance of the charr of Ennerdale, which leave the lake in the spawning season, and crowd into a pool—the wider part of a stream, a feeder of the lake, and near its entrance into the lake, called the “Charr-dub.” Even the trout itself, I believe, sometimes spawns in lakes, especially when the tributaries are too small for the purpose. An instance of the kind you have mentioned in Connemara; I have since visited the lake and heard it confirmed, the fisherman who accompanied me assuring me that he had

found the spawn, where shed, resting on a bed of gravel. I know of another like example in this district, viz. in Blea-tarn, similarly circumstanced,—a spot, remember, notable as the scene of the Solitary in Wordsworth's fine poem "The Excursion." I shall mention only one other fact, which was related to me by a gentleman, not a naturalist, and free from all hypothetical bias,—how in a pond in his grounds, an artificial piece of water cut off from any stream,—some trout which he placed there increased considerably in number by breeding: the water supplying the pond, which I saw, was from a small pipe from water-works in the city of Dublin, and its only exit was by a similar pipe.

The sun is high, and the wind is failing us; let us suspend our fishing for a while, and row up the lake. Its upper part is worth seeing, as is also Mardale. We have the basket in the boat, and there is a small inn in the dale, where we shall be welcome to eat our luncheon, and where we can get a draught of good ale.

AMICUS. I like your proposal. The distance appears to be short. Surely the lake is not three miles in length, as commonly reported in guide-books.

PISCATOR. We do not see its upper boundary, which is at least two miles distant from where we are. What you see is a neck of land stretching into it, and almost dividing it. The lake, it is said, derives its name from this feature,—*hause*, in the dialect of the country, signifying promontory or neck.

AMICUS. As we proceed the scenery becomes bolder and wilder. What are those mountains, if I may be allowed so to call those grand hills in the east.

PISCATOR. They are Knipe-scar and Cross-fell; and by crossing them you would be in the midst of some of the finest scenery of the Lake District. But should your curiosity and love of wild nature ever tempt you to do so, do not go without a guide. The keeper can tell you of an adventure of the kind rashly undertaken by a young collegian alone, which nearly terminated fatally. He was overtaken by mist on the mountain, became bewildered, and, after wandering all night at the risk of his life, returned to the spot from whence he started, almost exhausted. You know Scott's touching lines on the youth who lost his life, probably under similar circumstances, on Helvellyn, and

whose corpse was so long guarded by his faithful dog.

AMICUS. I do, and also Wordsworth's,—both happy examples of the moods of thought and feeling of the writers. The accident occurred in 1805: the spot was pointed out to me on my ascending Helvellyn a few years after, on a hasty visit to the district I then made, and on my return to Grasmere, I heard a full relation of the event at the village inn, where the attached dog was, so long as it lived, an object of regard, and well cared for.

Is that a church which I see amongst the trees?

PISCATOR. It is. We will land in the meadow below it. We can pass it in our walk to the inn. You will be pleased with its site and simple architecture.

AMICUS. How neat is this little public-house! its flagged floors of blue slate, chalked ornamentally! Everything clean and substantial!

PISCATOR. Such are the public-houses in the Lake District generally. The landlord, as in this instance, is commonly a farmer, depending more on his farm, a sheep-farm, for his subsistence, than on his casual customers. The

dogs which gave the alarm on our coming denote his occupation. And, let me tell you, these sheep-dogs are worthy of note. They are of the breed of the country, and are invaluable in these wilds. They are a good example of qualities acquired by training becoming hereditary. I have been assured by shepherds, that a young dog of this breed, though born in a town, would take to the sheep as soon as brought into the country; that the dogs delight to be amongst the sheep, and seek them spontaneously. Their intelligence is remarkable: there are five or six words, expressive of orders, which they understand and obey. Do you see that dog going alone up the valley? I dare say he is on duty, sent to bring in the cows. Like our fellow men, each has its character, and acts in accordance with it. The most intelligent, and those who make themselves most useful, are highly valued; and their prices—for they are marketable—vary accordingly, from £1 to £5. We will walk a little way up the dale, and then return to the boat and our fishing. In that pretty brook, which comes winding down, there are many small trout, and after a flood some lake-trout, but at present

the water is too low to promise sport; and our time is too limited.

PISCATOR. We have been fortunate in having a breeze, and lucky in our sport; our basket is nearly full. Now the wind is failing, we will land, and following the stream which flows out of the lake, have the pleasant variation of river angling.

AMICUS. That too pleases me. Even with good sport, there is some monotony in lake-fishing. In river-fishing, in such a country as this, there is endless variety. But in saying there is monotony in lake-fishing, I would except to-day's,—the lake being new to me,—the surrounding scenery so various, as seen from different parts of the lake; and independent of the scenery, take it, if you please, as a compliment, having the pleasure of being with you.

PISCATOR. I am glad you can make exceptions. Remember Derryclare Lake, and your enjoyment there. Each kind of fishing has, I think, its advantages and pleasures. There are moods of mind suitable to each,—times when the quieter, and, as you consider it, monotonous exercise, may be most agreeable; other times,

when the more active may be most needed and useful. Step ashore. The boatman will take our fish to the inn, and I will accompany you; I shall be glad to renew my acquaintance with this charming valley. Take your rod, I shall dispense with mine,—the brook is hardly fitted for two.

AMICTS. Here is a waterfall, and of much beauty. This, I suppose, is the fall which stops the salmon in its ascent. What fish is that which I see in the deep pool below? Surely it is not a schelly, to which it has a resemblance!

PISCATOR. It is a schelly, but not of the right sort. It is a chub,—a fish not common in our northern rivers. It owes the name by which it is called, doubtless, to its large scales, and is sometimes mistaken for the true Coregonus, leading to another mistake, that the lake schelly is a frequenter also of the river. This instance brings to my recollection another, of a mistake from a name. On one occasion, in conversation with an Irish gentleman, on my mentioning that the grayling had never been found in Ireland, he assured me that it had, and spoke of two or three rivers in which it was



common; and how according to tradition it had been imported; and how its name was supposed to be derived from Gravelines in Normandy. A weary, somewhat lengthened inquiry and correspondence ensued, the result of which was, in brief, that the supposed Irish grayling is the salmon fry,—the gravelin. The mistake was not fully righted till I sent a true grayling to my informant. The corroborative circumstances as to the importation of the fish and the derivation of its name were never explained.

AMICUS. Whilst you have been speaking, and I listening to your anecdote,—an anecdote well fitted to put one on one's guard,—I have opened two or three of the trout I have taken from the river. Their stomach you see is thick, little inferior to that of the gillaroo in thickness; and in each, I found little else than incased larvæ. May I infer from this, that these larvæ are their principal food, and hence the thickness of the coats of their stomach; and yet considering the character of the stream, in so many places overshadowed by trees and running through green meadows, flies must abound.

PISCATOR. I have myself observed, when fishing here before, the thick stomach of these

trout. Probably, like the gillaroo, they feed most at the bottom, but not exclusively, making flies, when abundant, part of their food. Though not large,—seldom allowed to attain a large size, they are well fed, and as the river flows out of a lake that is seldom frozen, its bed is unusually productive of aquatic insects,—the incased larvæ in their early stage;—but whether this circumstance is sufficient to account for the thickness of their stomach, remembering our former discussion on this question, may well be doubted.

AMICTS. They are beautiful fish,—light coloured, and brilliantly spotted! The lake trout though as well fed, larger and proportionally thicker, are of a duller hue,—have a greenish tinge on their backs.

PISCATOR. This is another instance of a certain correspondence of the colour of the fish, and of the water it inhabits, or rather the bottom. Where the bright river fish were taken, the bed of the river was gravel, the water clear, shallow and rapid, with good exposure to the sun; where the lake fish were caught, the water, though clear, looked dark from its green weedy bed reflecting little light.

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AMICUS. We are approaching the village. I see a second bridge; is that over the Lowther?

PISCATOR. It is. The two rivers join just below; and in its wider and deeper waters on a windy day, you may have good sport,—if good it may be called, when the fish taken are seldom above herring size. The Lowther not flowing out of a lake is a more hungry river than its tributary, as its wide bed of drift denotes, and its fish are of inferior quality.

AMICUS. The sun is setting. I am pleasantly tired; let us have a fish supper: tea and fish will refresh and invigorate us; and I am desirous of making trial of the several kinds we have taken, lake and river trout, charr, schelly and smelts.



## COLLOQUY XI.

*Post-prandial : inquiring and suggestive.*

PISCATOR.



OW I hope you are refreshed. What think you of the several fish you have partaken of, or tasted ?

AMICUS. I found them all good ; the charr and schelly delicate ; and the latter I think in taste like the grayling. You perceived that the charr differed in colour when cut, some being of a pale red, others white, or nearly so, irrespective of size and condition.

PISCATOR. The difference I believe depends on the part of the lake from which they were taken : the keeper has told me that the fish cutting colourless are from one side, and those with colour from the opposite side ; and I believe him ; I know in the case of the trout several instances of the same kind.

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AMICUS. How good were the smelts! one of about a quarter of a pound was fatter and more delicate than either of the charr, and yet, though so beautiful externally in its silvery scale, it cut white, reminding me of a former remark of yours. I am surprised to have taken this fish after the first of June, or that it should ever be plentiful here, where you say the salmon is rare,—even allowing for the prolificness of the salmon. May it not in reality be a distinct species? Reading lately on the subject, I find that the old notion of there being such a species is not altogether given up.

PISCATOR. The only authority I know of, in favour of the view you allude to, is Mr. Young, and his opinion appears to be mainly founded on the fact, as he considers it, of the parr having been found in streams inaccessible to the salmon. He has made a statement to this effect in his "History of the Salmon;" and it has come to my knowledge that he has pointed out two streams cut off by falls from salmon rivers, in which, he says, he has detected the parr,—one a tributary of the Shin, in Sutherlandshire, the Grudack; the other in the same county, on its western coast, the Kerkiag. Now if the fact be

admitted, and I am not satisfied of it, I would ask, may it not be explained without this inference? May there not be some unseen communication at the falls through which the salmon may pass up? or may not the impregnated ova be conveyed to the upper stream by birds, (such as the water-ousel or heron,) adhering to their feet or feathers, or lodged in their bills? The manner in which so many mountain tarns and lakes, even in newly discovered regions, are found to abound in fish seems to denote as much; and the results of some experiments I have made are favourable to the notion. And, I am the more disposed to this conclusion, viz. that if the true parr have been found in either of the streams mentioned, it is to be viewed as an accident, from having been assured by a friend of mine, as accomplished a naturalist as an angler, that he has fished these very streams, and sought for the questionable fish, and offered a reward for its capture, but all in vain. If there be such a fish as that supposed, a distinct species, other evidence appears to me required in proof than that which has been adduced. Ought it not to be found propagating its kind? Let this be demonstrated,—let the female fish in numbers be shown with mature ova, and the male fish with mature

milts,—doubt will cease. Other evidence, such as that depending on slight differences of form, or variations of colour and spots, can have little weight, as they may be owing to local circumstances, or to the more potent agency of admixture of breeds. Practically however viewed, as regards the salmon as an important article of food and the laws for its preservation, the question belongs merely to the *curiosa* of natural history, and Mr. Young in mooting it, views it in that light, no one, I believe, being more firmly convinced than he is, that, generally speaking, the parr, the fish so called, the graveling, brandling, pink, are either salmon fry, or the fry of its congeners, the white-trout, or bull-trout; and this being admitted, it must be equally admitted that in legislating for the preservation of the salmon, all these fry should come under one category, and be equally protected.

AMICUS. You allude to some experiments you had made which you considered favourable to the notion that the ova of the salmon might be conveyed from one river to another. As the subject is surely interesting in relation to the diffusion of species, will you favour me with an account of them?

PISCATOR. The trials were made chiefly for

the purpose to which you refer, and were commenced at the suggestion of a distinguished naturalist. I shall mention only one or two results, the inquiry being incomplete, and in progress. To test the power of endurance of the impregnated ova, I got some taken from the spawning-bed, and had them packed in different ways for conveyance; the distance was seventeen miles. Some were put in water; some in dry wool; some in moist wool. I received them twenty-four hours after they had been taken up. Their development was so advanced as to be favourable for the experiment, the embryo being distinct, and a fit object for the microscope. On arrival, they all appeared in a healthy state; and those submitted to the microscope were found alive, specimens being tried from each parcel. Some were kept twenty hours longer, both in the dry and wet wool; and without apparent injury, judging by the circulation as tested by the microscope. Some were exposed to the open air placed on a rock in the shade; and some in sunshine; the former at a temperature of 38°; the latter at 52°. In each instance exposure of an hour's duration was borne without stopping the circulation.



AMICUS. On a former occasion you mentioned salmon-ova having been taken from the stomach of a trout, and notwithstanding proving productive. Just now you conjectured that the ova might be conveyed by birds, sticking to their feet. Is it not likely that the voracity of birds may aid in the diffusion of fish? Is it not probable that some of the ova swallowed by a water-ousel or heron, may be disgorged or discharged by the vent, without losing their vitality.

PISCATOR. The same idea has occurred to me, but an experiment I made was opposed to it. You know how high is the temperature of birds: the stomach of the water-ousel is probably above 100° of Fahrenheit. Now this temperature I have found destructive of the life of the embryo;—immersed in water at 98°, even for eight minutes, the circulation was permanently arrested: the trial was made on one of the salmon ova of which we have been speaking. Nor is this result more than might have been expected considering that the Salmonidæ are the inmates of cool, or even cold streams: probably the summer temperature of our rivers would be fatal to their ova.

AMICUS. What is the lowest temperature

that they can bear without injury? What is the temperature of water most favourable for their developement?

PISCATOR. Probably 40° of Fahrenheit, is my answer to your second question; at which temperature water is of greatest specific gravity, and is nearly the temperature of all head streams in winter, especially those flowing out of lakes. As to your second, I believe that a temperature even below the freezing point can be borne with impunity, provided it is not so low as to occasion the congelation of the egg, and several degrees below that point is requisite to produce this effect. In some trials I have made I have found eggs of the salmon included in ice at 30° Fahrenheit, and yet the circulation not interrupted. In the relation of the temperature of the water, and the sustained vitality of the egg, we see another instance of happy adaptation, of which there are so many in the economy of Nature.

AMICUS. How is it that the egg is not frozen, at a temperature below the freezing point?

PISCATOR. It may be owing in part to the vitality of the egg; but more likely to the nature of its contents, and to their being included in a shell. Even water, at rest, in a capillary

tube, may be reduced many degrees below the freezing point without being frozen. And, reflecting how the ova of the salmon allow of being enveloped in ice without losing their life,—and the same may be inferred by analogy of the ova of all the Salmonidæ,—this may be another means for the diffusion of the species: thus, suppose a heron to alight on a spawning-bed, is it improbable to suppose that some ova may be attached in ice to the cold feet of the bird, and so attached, be conveyed to a distant river or lake?

AMICUS. You alluded, just now, to the crossing of breeds, such as result from the impregnation of the ovum of the salmon or of the charr by the milt of the trout: this brings to my recollection the hypothesis of an ingenious man of my acquaintance, that all the Salmonidæ are merely varieties; he, holding, that compared individually, they are not more distinct than the varieties of dogs, or even of the human race; and that their peculiarities, those by which they have been separated into species in an artificial system of classification, have been acquired accidentally, and have become hereditary.

PISCATOR. It is an hypothesis which may be

maintained, and if practically investigated, may lead to interesting results. Pray keep it well in mind, and make it the subject of experiment. This we know for certain, that the brook-trout of two or three ounces and the lake-trout of many pounds weight are identical species, and that the river-trout can live and flourish in brackish water:—now, would it be more extraordinary, were it established, that the young of the salmon confined to a river on slender diet, unable to obey its instinct and descend to the sea, can propagate and give origin to a persistent variety, similar to the parr, and which might be called a species.

AMICUS. I have heard it said, and by a naturalist, who, I know, has paid much attention to the subject, that the parr has all the characters of a fish in its immature state,—a state in which it may be compared to the boy, and that it would be just as reasonable to believe its persistence in this state, as to believe that a boy, however long he might live, would continue a boy.

PISCATOR. This is stating the case so as to reduce it, as it were, to the *argumentum ad absurdum*; but I do not think justly, inasmuch as

the analogy is incomplete. To make it complete, we should have a race of boys endowed with the procreative function of men. Whether or not there be a parr, distinct as a variety or species, can only be determined, I think, by careful observation, and not by analogical reasoning: and I may add, that at present, as well as I can judge, the weight of evidence and of authority is altogether in the negative.

AMICUS. Now we are in this discursive mood, allow me to enquire respecting the legislative acts for the preservation of salmon, and whether you join or not in the commonly received opinion, that the existing ones are defective and inadequate?

PISCATOR. I unquestionably do, and for the preservation of fish generally. Unless some more stringent laws be enacted and enforced, one of our most delightful country sports will be in great danger of being lost, or of being only within the reach of a few rich proprietors, who have streams of their own,—private property, and are able to incur a great expense in preserving them. This lake district is a striking instance in point. Formerly its lakes and rivers abounded in fish: it was the paradise of

anglers; in no part of England were there more kinds or greater numbers of fish, affording sport to the angler, from the noble salmon to the brook-trout. Now, on the contrary, its angling, from its glory has become its opprobrium, and the tourists, ignorant of the change, who come in sanguine expectation of great performance with the rod, leave in disgust, with the settled determination, should they repeat their visit, not to cumber themselves with fishing gear. I speak of the district generally, not of the lake we have been fishing to-day,—that being well preserved, and almost a solitary exception.

AMICUS. Pray inform me as to the causes which have been most injurious, and which, if new laws are to be enacted for the preservation of fish, ought, in your opinion, most to be kept in mind.

PISCATOR. The causes are many. I shall mention those only, which may justly come under the head of poaching,—such as night-fishing with nets, and using nets of small mesh, fishing with salmon-roe, a very destructive bait; setting night-lines; and in addition to these in the lakes and tarns, fishing with the lath or otter, and cross-fishing: moreover, in the spawn-

ing season, taking the charr, both with the net and naked hook, by a process already mentioned, that foul one of "klicking;" and the larger fish, such as the salmon and grey-trout, by the spear or lister. As regards the salmon specially, the importance of which, as an article of food, is immeasurably greater than as a fish for sport, the destructive causes in operation are even more numerous, so much so, that it is really surprising that all our English rivers are not *in toto*, as most of them are, deprived of this fish. The salmon, as you know, on account of its value in its adult state, has watchful pursuers in all directions: if it escape the stake-nets laid along shore contiguous to the river estuaries,—a difficult matter,—it can hardly escape the net that is shot or laid for it within, and the cruives and weares constructed to entrap it in the way of its upward passage. Then, if we consider it in its early stage, being commonly unprotected as a parr, and the parr readily taking the fly and easily taken, its destruction is enormous: I have heard, and on good authority, of a party of three anglers, who in one spring day, fishing with the rod and fly, killed three hundred and sixty-three dozen!

AMICUS. Is there any remedy for this great evil? Can you suggest any measure to check or prevent it?

PISCATOR. As to the suggestion of measures, there is little difficulty. Were a committee appointed to inquire into the matter, composed of men, naturalists as well as anglers, remedial means, I have no doubt, could be proposed, which, if legislated on, would be very effectual. The great difficulty seems to be in getting an Act passed through Parliament, it is so expensive and troublesome, and so many interests are concerned. Would that the Government would undertake it! But, alas, each administration of late years has been so feeble, its existence so precarious, as to be unequal even to the carrying of measures of higher interest, and to which they have been in a manner pledged. Would that the country gentlemen would unite, and some patriotic angler amongst them make the attempt! Their interests are specially concerned. Were our rivers well stocked with fish, which most of them might be, were they properly protected, the country would be rendered more attractive,—the value of landed property, wherever there is a river,



would be enhanced, and streams now running waste and barren would become productive sources of wholesome food, costing nothing in its production, as well as of a delightful and healthy recreation.

AMICUS. Allow me to ask, as you appear to have thought much on the subject, whether there are any precise measures which you could propose?

PISCATOR. I shall mention two or three which have occurred to me as likely to be useful. In Ireland, according to a lately enacted law, no one is allowed to fish for salmon, or, strictly, to take salmon, without a licence. The cost of a licence for the year, for the season, is from one pound to ten shillings, according to the district. Why not extend the enactment to this country, and at a reduced rate include trout-fishing; for trout and grayling, say two shillings and sixpence, so as to be within the reach of the labouring man? I would have no qualification, the sport should be open to all, and then it would be for the interest of all honest anglers to enforce the restriction. Another measure likely to be useful may be taken from the last Irish Fishing Act, viz.

the subjecting to fine or imprisonment any one found taking dead fish from a river. This, which is a very recent enactment, has, I understand, put a stop to a vile destructive process that was too often practised by the country people intent merely on immediate profit; I allude to the poisoning of the fish,—whether by lime, *cocculus indicus*, or infusion of spurge; the last, a plant that grows abundantly on the banks of the Suir, and in that river was so often employed for the purpose mentioned (till stopped by the law in question), as to injure greatly its fishing. But, even as to what angling is, considered in relation to law, its definition, as I have before stated, is ambiguous; and, in consequence, notorious poaching has often escaped with impunity; magistrates have been unable to convict. One of the first things, then, necessary is that fair angling should be legally defined. And, I believe, it would be for the advantage of all concerned were it made very stringent, and in a great measure confined to fly-fishing, and perhaps minnow, to the exclusion of ground baits. It is these baits which are most killing, and which can be used with least skill, and are most effective

during rain, when the water is turbid, and when exposure is not without risk of health,—indeed, many a labouring man who, driven from his ordinary work by rain, and then taking to angling, has paid the penalty in an attack of rheumatism, it may be almost crippling him for life, or in the production of some chronic disease, disabling him from work and shortening life. The close season, that is the period when fishing should terminate, to allow the fish to run up to their spawning-places, and to perform the function unmolested, is a part of the subject attended with most difficulty, and which, to be well regulated, most of all requires the attention of naturalists.

AMICUS. Are there at present any well established facts fitted to serve as guides on this point?

PISCATOR. Your question is somewhat difficult to answer. It seems to be well established, that the great spawning season of the true Salmonidæ in this country is between September and February. If this be admitted, then, unquestionably, the interval should be the close season. It seems to be equally well established, at least in my mind, from all the information I

have been able to collect, that the migratory Salmonidæ are far from being regular and constant in their time of coming from the sea, or like as to the condition in which they arrive. In some rivers, as I remarked on a former occasion, when speaking of late and early rivers, they ascend in almost uninterrupted succession throughout the year; in others they do not commence till late in the spring, and in some not till the height of summer. The fish that run up the rivers in spring and early summer have not their reproductive organs developed; they mature in fresh water: those which ascend in autumn and winter most commonly have these organs developed, and the more advanced the season the more mature the roe and milt. The inference in conformity is, that some salmon and white-trout spend the greater portion of the year in the sea, whilst others, on the contrary, are the greater part of it in rivers and lakes. Did we not know that their ova cannot be hatched in sea-water, it might be supposed even that these fish breed in the sea, as they are often taken in the sea, ready, or nearly ready, for spawning.

AMICUS. In a former conversation you al-

luded to the proprietor of a fishery—of one in which clean fish ran up in the winter months,—complaining of his being prohibited from taking them at that season, and how he considered it an injustice. The fact perplexed me: I asked myself why did these fish quit the sea? It could not be for the purpose of spawning, unless they remained in fresh-water till the following autumn or winter.

PISCATOR. About the fact there seems to be no doubt; *i. e.* that in many rivers clean fish, nowise prepared to spawn, run up during the spawning-time. One conjecture that may be offered is, that these are barren fish, and, though barren, impelled by an instinct hereditary to quit the sea for fresh-water. Another is, that they will remain in fresh-water till their ova and milt are mature. Could these fish be easily distinguished from breeding fish, and could the proprietors of the rivers they frequent be depended on for having them alone taken during the winter months, a clause permissive in any general Act might be for the advantage of the proprietors and of the public. The danger is that the privilege would be abused. Recently, I find, some attempt has been made by the

Commissioner, to grant privileges of the kind to certain waters, but in a very limited way.

AMICUS. We pride ourselves in living in an enlightened age and a period of progress. How strange that interests so important as those of our fisheries should be neglected! It would be hardly stranger were there no laws, or if those existing against sheep and horse-stealing, or cattle lifting were allowed to be in abeyance.

PISCATOR. Such a neglect of interests is not what might be expected, nor is it creditable to the present times. Some apology perhaps may be offered based on the peculiarities of fish, especially of the migratory kind, and their extensive range of localities, and the difficulty in consequence of considering them private property. Too often, moreover, there is perplexing obscurity relative to rights in fisheries,—whether they are free, belonging to the public, or private, belonging to individuals. An enlightened and patriotic man, and an angler, maintains as a principle, that “virtually speaking, salmon belong to the people; that their careful protection is a popular right, and consequently, any undue destruction is a popular grievance.” He adds, “So decidedly do I look on salmon as national

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property, that I consider it a duty incumbent on all magistrates to lend their best aid towards the alteration of the law, and to do all they can to increase the quantity for sale when sound and good, as well as to prevent foul fish finding their way into market in August and September.”\* Would that this principle were generally received and acted on, and then we should have a more efficient law, with improvement and increased productiveness of our fisheries.

AMICUS. What are “foul fish?”

PISCATOR. Fish ready to breed; their roe and milt mature, or nearly so; in which condition as articles of food they are greatly deteriorated, and by many are considered unwholesome. They are so considered by the gentleman whose words I have just quoted; he says, “the markets of London, Leeds and Manchester, are notoriously supplied with foul salmon in these months, (August and September,) which are easily known by the huge milts and roe they contain, and which none but foul fish have.”

AMICUS. Do you adopt the opinion that these

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\* Letter from Robert Wallace, Esq. in Inverness Courier of 12th Sept. 1848,—republished in Appendix to Mr. Young’s “History of the Salmon.”

fish, so called foul, are really unwholesome? There are many sea-fish brought to our tables when in roe to which no such objection is made;—the sole for instance, the herring and cod.

PISCATOR. I cannot say, that I consider the salmon in the condition alluded to, absolutely unwholesome, more so than butcher's meat, from animals far advanced in pregnancy. But the mind revolts from the use of such meat:—the feeling almost instinctive is, that it is an act of cruelty to slaughter for the shambles the yearning ewe, or to kill for the table the brooding hen, and certainly these are acts nowise justified by economy. Animals in this state are always out of condition, some more, some less, the degree seeming to depend, in the instance of fish, on the volume of the roe and milt. When these are large, as in the Salmonidæ, constituting a considerable proportion of the total bulk,—I have found in the trout the roe equal in weight, from one-fourth, to one-fifth, of the total weight of the fish,—the condition of the fish seems to be in a high degree deteriorated; when comparatively small, as in some of the sea-fish, then the deterioration seems to be less. Moreover, in the salmon, when the ova have been matured



after arrival in fresh-water, the material of the eggs, that by which they grow, appears to be mainly derived from the substance of the fish itself, and consequently the development of the ovaries under these circumstances, is an impoverishing, exhausting process.

AMICUS. What you state seems to be reasonable and conclusive, inasmuch as fish, especially the Salmonidæ, are now considered almost as delicacies, fetch a high price in the market, and ought not therefore to be brought to market, but when in prime condition. When I see in future a salmon in roe on the table, I shall think of the brooding hen and yearning ewe. Those persons who make light of the subject say, as regards the destruction of the species, what does it signify whether the fish be killed in roe, or out of roe, as every fish breeds in its turn.

PISCATOR. I think you will agree with me that this is an argument in palliation more specious than real. The fish that arrives at its spawning bed, with its ova mature, has escaped a thousand accidents fatal to the majority of its fellows; it is now in a state, and at a period, of most importance in relation to its kind, and in relation to man, as food, of diminished value,—

on both which accounts it is surely deserving of being spared and protected; in its fate are involved that of thousands of salmon fry and hundreds of grilse, and it may be, of adult salmon.

AMICUS. Are foul fish easily distinguishable, and by other marks than those of the "huge milts," and "roe," which being internal cannot be seen till the fish are opened, and consequently can be of no avail in separating the "foul" from the "clean?"

PISCATOR. There are. For instance, in the salmon, when its breeding time approaches, the under jaw of the male elongates and turns up, and its belly, from a silvery whiteness, becomes of a bright red. These are distinctive marks in the one sex. In the female the marks are less distinct,—there is no elongation of the jaw, and little change of colour. Her state is best cognizable by the vent,—the orifice communicating with the cavity of the abdomen by which the ova are to have their exit;—if that be examined, it will be found towards the spawning time, red and enlarged. In the charr of both sexes the same marks are observable. In the white-trout and common-trout, the change of colour in the male is wanting. Probably, it is by one or more

of these marks, and other slight differences of appearance, noticeable by the acute eye of the Salmonidæ, that the pairing fish discover each other.

AMICUS. In a former conversation when you were speaking of a fallacy relative to the mode of impregnation of the ova, you referred me for fuller information to a paper on the subject, in a recent volume of the Transactions of the Royal Society of Edinburgh. I have since consulted that paper, and find it stated therein that previous to the maturation of the ova, the vent is closed. Is that a criterion?

PISCATOR. The author on that point is in error. From such observations as I have made, and since that paper was published, I have satisfied myself that the passage is not closed, but merely contracted. I believe he fell into the mistake from examining fish of no great size, and from testing the outlet by the blow-pipe. Contracted as the passage is, and its sides in contact, the orifice is in fact virtually closed so as to resist the impulse of air applied with ordinary force.

AMICUS. Does the salmon and its kindred breed yearly? I have heard it said that they do,

by those little regardless of the destruction of the breeding fish.

PISCATOR. The popular opinion is, that they do; but I doubt its correctness: I am more disposed to believe that a year intervenes. I shall mention some facts on which I rest this opinion. In the breeding season, say from September to February, fish, whether salmon, trout, or charr are to be met with, which may be called "clean fish," in good condition, the salmon fresh from the sea,—each kind with roe and milt nowise developed. On one occasion, when fishing for the purpose of natural history rather than for ordinary sport, I kept for examination all the fish I took. It was in the middle of August, in Donegal, and in one of the Gweedore lakes. Of thirty-nine trout taken, ten were males, their milt large; eight were females, their roe correspondingly large; other eleven were males, their milt very small, almost threads; other nine were females, their roe little more than granular. At the same time and in the same water, I took ten parr, of which four were males, with their milt large, almost mature; six were females, with ovaries very small and merely granular. The inference

was, that those fish in which the reproductive organs were well advanced, would spawn soon, that is, in the approaching breeding-season, the fall; on the contrary, that those in which they were little developed, could not be in a state to spawn till the following year.

AMICUS. Little did I think, when I placed myself under your tuition, that we should have engaged in discussions such as those of this evening, so interesting and important, and which in a manner—if I do not use too strong an expression—give dignity to the art, by combining the agreeable with the useful,—the recreation of the angler with an important branch of national wealth, and showing how the interests of the two are connected. I really am grateful to you for having made me an angler.



## COLLOQUY XII.

*Post-prandial in continuation ;—Meteorological ;  
Practical and concluding.*

AMICUS.



IS it is yet too early to retire to our rooms, and as we do not intend to resume our fishing early to-morrow, I shall feel obliged for any information you can give me respecting the state of atmosphere best fitted for angling, on which I am greatly in the dark, having, since I commenced fishing, been often disappointed; getting no sport, when, in my ignorance, the elements,—air and water, sun and wind, seemed most promising; and sometimes, though rarely, having had success, when, at starting, I hardly expected any.

PISCATOR. The subject of your inquiry is a difficult one, and not a little mysterious;—so

difficult, indeed, that I hardly know how to enter upon it. First of all, I may advert to the atmosphere itself, and how, from its very nature, the subject on which you ask information can hardly be clear. We know its principal elements,—how it is composed of oxygen and azote and carbonic acid, and aqueous vapour,—these in pretty definite and ascertained proportions; but, how little do we know of its numerous other ingredients, ponderable and imponderable, the existence of most of which are only indicated by their effects. How heterogeneous its composition must be, you may imagine, considering that it is the natural receptacle of all that is volatile on the earth's surface; as much so as the ocean is the natural reservoir of all that is soluble; or the ocean-beach of all that is solid, subject to attrition and comminution, exposed to the action of the waves, or to that of rivers losing themselves in the ocean.

AMICUS. Truly, what you say is well adapted to make one aware of the mystery and difficulty of the subject. I can readily believe that the atmosphere may be more compounded than any sea-beach, or than the ocean itself: but whether we examine the ocean or any portion of its

shore, do not we find in each a constancy? and, ought we not to expect a like constancy in the atmosphere?

PISCATOR. In all, whether ocean, sea-beach, or atmosphere, there is a constancy only within, I believe, certain limits, that is, as regards the main ingredients. Look at the beach after a storm,—the more carefully you examine it, the more additions you will find made to it, especially in fragments of animal and vegetable organisms. These are discoverable by the eye. Had we the power of seeing gases and vapours, after an atmospheric storm, it is probable we should discover not fewer, even more traces in our atmosphere of added matters,—of substances small indeed in quantity, but potent in quality. At one time we might detect a noxious matter productive of agues; at another, another kind, the cause of cholera; now the matter of the potatoe blight, or in the south that of the vine disease.

AMICUS. Am I to infer from what you say, that the atmospheric influences on fish depend on the presence of matters hardly, if at all appreciable by our senses, or even by our means of analysis, and known only by their effects?



If so, for my part, there is an end of the inquiry,—the subject is too transcendental for my ken.

PISCATOR. Do not say so. It is the prerogative of man to speculate, and you are the least likely of my acquaintance to relinquish it. As to your last question, I must confess, there are times when fish seem to be under some latent spell, an inexplicable influence,—as if abhorrent of some ingredient in the incumbent air, repelling them from taking the fly.

AMICUS. I approve, with you, of speculation, but I would wish for it to be profitable and appropriate: now, what you state of the atmosphere, however true and interesting, seems to me only fitted — and, I think, for that you mainly intended it—to show the difficulty of the subject. In this respect, I, even with my scanty knowledge of chemistry, could aid you, by propounding the atmosphere not only as a receptacle of vaporous matters, but also as a natural laboratory, in which various chemical actions are in progress, and various compounds formed, and it may be decompositions effected. But as my wish is now rather to be instructed than amused, and not to diverge from angling

into transcendental chemistry, have the goodness to give me the results of your experience or of your reading, as to the prognostic I am in quest of.

PISCATOR. In complying with your request, I shall do little more than disclose the poverty of my knowledge.

AMICUS. First, if you please, speak of the waters,—the state of which is appreciable by the eye, and respecting which, I apprehend, there can be little doubt or mystery.

PISCATOR. I will mention its least favourable state, whether of lake or river; and this is its waxing;—a state necessarily connected with rain, and continued rain. Then the water is more or less foul; and, being foul, affording food below the surface in worms and larvæ washed from the land, is on both accounts unfit for fly-fishing. The opposite state is, perhaps, the most auspicious; that is, when the water is waning, clearing, but not quite clear, and the adventitious food is carried away by the stream or expended, and the fish are on the alert towards the surface for insect prey. If in such a state of a river or lake, you see the swallows haunting any particular part, skimming along

the surface, there you can hardly do amiss to follow their example, and whilst they are taking water-insects, you probably will be successful in taking fish. The connexion I need not point out.

AMICUS. I infer from what you say, that neither a very high state of the water nor a very low one is inviting to the angler,—that is, for fly-fishing, to which I intend honourably to restrict myself.

PISCATOR. As a general rule, it holds good; but, as a good deal depends on the average size of the stream, if its volume after drought is sufficient, it does not follow that there need be a want of sport;—indeed, there may be very good sport, other circumstances favouring; but to secure this, you should use all your art, and the finest tackle, on account of the clearness of the water.

AMICUS. Now, if you please, as to the mysterious atmosphere.

PISCATOR. A pretty general experience seems to prove, as I think I before observed, that when the electricity of the atmosphere is disturbed,—when, to use a vulgar expression, “there is thunder in the air,” there is little

chance of good sport ; a state commonly denoted by heavy drops of rain, if there be any ; or, by diffused, low, leaden-coloured clouds, under which the artificial fly is easily seen. This circumstance is held by old salmon-fishers to be of special bad omen. I will not tire you with other prognostics, at least of bad luck. You will in good time learn them yourself, so far as they can be learnt. Pleasant exercise being one of the chief objects of angling, and the charming view of the honest and beautiful face of nature another, it is well not to be over inquisitive about the signs, whether of good or bad sport. It is well to go out for recreation with faith and hope, and with a meek and contented mind ; and, judging from my own experience, there will then be little disappointment. One pleasant, general rule I can lay down, which is, that the more agreeable the weather, the fitter for exercise and enjoyment in the open air, the better the chance commonly of sport ; as when you have

“ The sweet south,  
That breathes upon a bank of violets,  
Stealing and giving odours ;”

when the honey-bee is busy and far from home,  
when the swallow is skimming lake or river, in

brief, when the air is soft, warm, and genial, and if high, still of the same genial character, the opposite of bleak, chilling, and cold.

AMICUS. Is this encouraging speculation? Let me now be its advocate: pray indulge me in it a little longer. On a former occasion you alluded to a sixth sense: do you suppose that it is by this sense, that creatures—such as fish immersed in water, where, in their movements and doings, one would suppose they would be independent of the atmosphere—are susceptible of its obscure influences?

PISCATOR. It may be so, or it may not; it is all matter of conjecture. The impression may be made,—the influence imparted through the nervous system generally, as we suppose the effect of change of weather is on persons of a highly nervous temperament, especially during thunder-storms. If there be a sixth sense, I do not know how its existence can be positively determined without its being localized, that is, associated with special nerves, according to the analogy of the other senses. This subject, too, is transcendental,—too vague for useful discussion, so let it drop, according to your good practical rule.

AMICUS. I am well disposed to do so: I have no inclination to deal with the mystical in science,—if that can be called science which is vague and uncertain. I hope all honest anglers will keep clear of the delusions of our times, whether in the absurd form of spirit-rappings, or in the hardly less illogical form of clairvoyance and mesmerism, which in so many instances seem to serve as the outlets of credulity.

Of the seasons for fishing, and the laws relating to them,—practical subjects,—I shall be glad to have some information for my guidance, especially on the latter. Of course the law on the subject ought to be founded on the science of the subject,—on a knowledge of the habits and condition of the fish to which it applies: but, I fear from what you have already said, that this is not the case.

PISCATOR. Truly not. From the remarks I have already made, you may form some idea of the imperfect state of the law on the matter of our fisheries, and its short-comings in relation to angling. To lay down what the law actually is exceeds my power, as you may easily imagine, when you know, that since the time of Henry VII. no less than thirty-two several

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statutes have been enacted, applicable to salmon fisheries in England; many of which—but which, who knows?—are supposed to be obsolete. These, the salmon-fisheries, as most important, have naturally had most attention paid to them; and of how little avail this has been,—doubtless, owing to the imperfection of the laws,—is too apparent, from the circumstance, that most of the English salmon-rivers, once so productive, have now become almost barren and worthless. In Scotland, where the majority of these rivers are private property, though they have even there fallen off as to productiveness, owing to laws inadequate to protect them, yet being better cared for, each county appointing its own water-bailiffs, their deterioration is less. In Ireland, most of the salmon-rivers, as in England, belong to the public, and there, as in England, there was a rapid deterioration of them in progress, till about five years ago, when a new Act, that of the 11 & 12 Vict. came into force, under the superintendence of a Board of Commissioners and the agency of appointed Conservators. Even in the short interval it would appear that benefit has resulted, and that the Irish salmon-fisheries are in an improving

state. This Act, I cannot but think, is as likely to be beneficial in its operation to the water-interests of the country, as the Encumbered Estates Act is to the landed interest; and, that till we have some similar Act for our English rivers, there is little chance of there being any material improvement in them.

As to the season for angling, so far as fixed by law and regulation, the only exact information I can aid you with, relates to the salmon, and that chiefly in Scotland and Ireland, inso-much as in England, there is no accordance as to the open and close time of the several rivers,—one and the other so various and discordant, as if fixed by caprice rather than by reason or just experience.

In Scotland, with the exception of the border rivers, the Tweed and its tributaries, and the rivers running into the Solway, most of which are border rivers, the close, or prohibited time, extends from the 14th of September to the last day of January. In the exceptional Tweed, which is regulated by a special Act, the salmon-fishing opens on the 15th of February, and closes, as concerns the commercial fishing with nets, &c. on the 15th of October, with a licensed



extension to rod-fishing until the 7th of November,—a judicious grace of three weeks longer. In the rivers terminating in the Solway, also under a special Act,—one, from all I can learn, deserving of reprobation rather than praise, tyrannical in its restrictions, and as singular in its construction, as regards the fair sport of the angler,—the close time in certain of them, as the Eden, the Dee, Fleet, Eske, Lyne, Liddel, &c. commences on the 25th of September and ends on the 31st of December; whilst in others, as the Annan, the Nith, the Orr or Urr, it extends from the 25th of September to the 10th of March, but without indulgence to the rod-fisher; on the contrary, with privation, inso-much as the close time to him reaches to the 1st of June; for, strange to say, not till then, according to the existing law, can the angler fish for salmon in these rivers, and then not without permission, in writing, from the owners or occupiers of the fisheries.

AMICUS. Can you give me any guiding knowledge, so desirable to the errant angler, regarding the open and close time of our English rivers?

PISCATOR. Truly I cannot, in a satisfactory

manner, except very partially, owing, as I before said, to want of any accordance amongst them in this respect, and to the times being decided, not on any general principle as regards the habits of the fish, but rather, to use the words of an experienced angler, "according to the fancy of the various fishing clubs," and, I may add, the will of the several proprietors of exclusive fishing streams. If you wish to fish any particular river, you can hardly be safe unless you obtain information respecting that river, and from a good authority; some rivers not being open till June, others as early as February and March, and some being closed in August, whilst others are open till December. And the same remarks apply to the rivers in Wales, and to the grayling rivers as well as to the salmon and trout. In Ireland, now divided into seventeen fishing districts, in the majority of these, viz. in fifteen, the close time, as regards rod-fishing, is from the 30th of September to the last day of February; whilst in the other two, it somewhat differs, altered by the decision of the Commissioners, in compliance with the wishes of applicants interested, and in accordance with received opinions re-

garding the time that the fish are in season; thus, in No. 8 District, the Limerick, the close time extends from the 16th of September to the 11th of February;\* and in the Letterkenny District, No. 14, situated in the county of Donegal, it is from the 2nd of September to the 31st of December.† Let me further advise you, that whenever you visit a river worth fishing, you endeavour to learn on the spot the regulations respecting it, and make a note of them at the time. The information will be precious; for if you omit it, thinking that you may be able to obtain the particulars from an innkeeper, or from a river-keeper, you are likely to be disappointed: you will most likely, judging from my own experience, get from them, if they answer your letters, anything but the exact information you want.

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\* This district is described as situated in the counties of Galway, Clare, Limerick, Kerry, Tipperary, Roscommon, King's County, Mayo, Sligo, Meath, Queen's, Westmeath, Longford, Leitrim, and Cavan.

† See printed instructions from the Commissioners of Public Works and Fisheries in Ireland, bearing the date of 1854-5, accompanied by a map, showing the limits of the several Fishing Districts.

AMICUS. As the breeding-time of the trout and grayling, you have informed me, is not the same commonly, one being late in autumn, the other in the middle of spring, surely there are some special regulations regarding the fishing in those rivers in which both kinds of fish are found.

PISCATOR. I am not aware that there are, at least in the sense you probably mean. Were the attention directed solely to the care of the grayling, trout-fishing would, in a great measure, be put a stop to; and *vice versâ*. A good deal is left to the honour of the angler. In the Teme, at Leintwardine, trout-fishing commences on the 1st of March and ends on the 1st of September; the grayling fishing then commencing, and extending to the 1st of January. In the Derbyshire rivers, the Dove, the Derwent, and Wye, I cannot learn that there is any exact fixed time for angling: trout in these rivers are considered in season from April to September, and the grayling from September to April. Attention is given in the way of restriction more to the size and quality of the fish than to any other circumstance. Grayling, however, under half a pound, may

be taken throughout the year, as under that weight, it is believed that they do not commence breeding, and in consequence are in good condition; and, moreover, they more readily take the fly than the larger breeding fish. Fortunately for the trout, those that are engaged in breeding are mostly, after September, out of the way of the fly-fisher, having then left the main river for their spawning-beds in the smaller tributary streams.

AMICUS. You spoke of condition and size as regulating qualities in relation to capture in the Derbyshire streams: as I hope to fish there, I could wish to know what is the permitted size.

PISCATOR. In the instance of the trout, not to be under ten inches in length, except, I believe, in Dovedale, where the limit is reduced to nine inches. Any fish taken under these figures must be returned;—an excellent regulation, and easy of being carried into effect, where honest keepers are employed. When I said before, that a good deal is left to the honour of the anglers, it implied, that they are expected, if they land a breeding fish, a fish out of condition or season, to return it to the water.

AMICUS. As regards the white-trout, is the

time for fishing it regulated by the time for the salmon?

PISCATOR. In Scotland, it is so considered: there the Acts regulating the salmon fisheries apply to all the Salmonidæ of the migratory kind, and to their fry, and, consequently, including the parr as well as the smolt, whether the offspring of the salmon or its congeners, the white-trout and bull-trout. In Ireland, the law is the same, but is, I believe, little regarded, applying in strictness only to the salmon. And, moreover, no license being required for fishing for white-trout, no more than for brown-trout, the law, I may add, in consequence, is rendered inoperative as to the preservation of the salmon-fry, insomuch as in a court of law, it would not be easy to distinguish to the satisfaction of the magistrate, if not a naturalist, or of the jury, between the young of the white-trout and of the salmon before their first migration.

AMICUS. Is fishing for white-trout admissible in a salmon river? I ask the question, remembering how I was questioned by a keeper when last in Ireland, and required to show my salmon license, though at the time not fishing for salmon.

PISCATOR. According to the best information

I have been able to obtain, it is admissible. But remember, if by accident you take a salmon, you are liable to the penalty. It is well too to keep in mind, that it is the actual capture that entails the penalty, not the attempt, even were you fishing with salmon flies.

AMICUS. If so, I infer the angler might have the sport of salmon fishing unprovided with a license, were sport merely his object, and if he liberate the fish as soon as taken.

PISCATOR. The inference you have made is logical, and I hope as correct in law, but probably, is not provided for in the Act, such a sportsman being amongst the things to be imagined rather than of actual occurrence. A Platonic angler, I think you will agree with me, would be ashamed to appear in court!

AMICUS. With a view to sport, and the kinds of fishing, I should feel obliged for some further information as to the seasons, irrespective of precise laws or local regulations.

PISCATOR. I have little to say in addition to what has been incidentally said on the subject. I may generally remark that the spring months are as much the best for the trout, as the early winter months are for the grayling, or the au-

tumn for the white-trout. For the salmon, by a selection of rivers, you might, were you so inclined, fish all the year round, with the exception of one month, January,—commencing in the northern Scotch rivers, taking next the Irish, and English, and last some of the Welsh. But, need I say, no angler fishing merely for pleasant sport, and wholesome exercise, and recreation,—the best intents of angling,—will be desirous of such a round of fishing, converting thereby what should be a pleasure into an occupation, and that a disagreeable one—*invitâ Minerva*—a toil.

AMICUS. To recur to the law: as regards its imperfect state for the protection of fisheries in this country where the game laws are so strictly enforced, the contrast surely is remarkable, especially considering that the preservation of the winged game, the partridge and pheasant, is often not effected without loss and expense, the one measured by actual payment of money to the tenant in compensation for damages done by the birds, or an equivalent in abatement of rent; whilst in the instance of fish, their preservation is a pure gain. Is there not an inconsistency, and want of judgment in this, and may I not say of common sense, very unworthy of the practical English people?



PISCATOR. I cannot defend the neglect of our fisheries in so many ways injurious, and so little creditable to the English people, or our Government. Something, however, may be said in extenuation. The preservation of game has, you know, long been a passion amongst the aristocracy, even from the time of the Norman conquest: hunting, fowling have been esteemed aristocratic amusements akin to war, and a kind of training for war,—the great attraction of the country, the delight of the gentry, indeed to such an extent as even to affect the time of sitting of the great councils of the nation. Then, there is a greater idea of property associated with game than with fish,—a seeming greater right to protect it as such, and also a greater facility. And, hence perhaps in part, the exertions made to protect the one, and the stringency of the laws for the purpose, and the remissness, and the little thought there has been about the other. Moreover, this remissness in one instance may in some measure have been intentional, in compensation, as it were, for the greater severity in the other.

AMICUS. Perhaps so. Let us hope for better times, and that proof of the inadequacy of the old laws may induce the Legislature to give the

subject consideration and enact better. As well as I can learn, it is those rivers which are free to the angler that stand most in need of protecting laws against the invasion of the poacher, not such as are private property, and which are commonly well protected.

PISCATOR. So it is; and no doubt because they are free;—there are no conservators like your *meum* and *tuum*. In our lake district, where almost every river and piece of water is a “free-fishing,” so constituted by immemorial usage, you have an example in point. It is no one’s special interest to protect them, and consequently they are neglected and spoiled, whilst the lake we have been fishing, being private property, the interest of the noble Lord to whom it belongs being to protect it, due care is taken of it, and with the ordinary result, of its being well stocked. If every one were at liberty to kill barn-door-fowls, how soon would the race become extinct! and, if the Legislature do not interfere, and by some adequate law protect the “free-fishing” rivers, they will soon be altogether without fish:—clubs and associations may be formed with the design of preserving them, but owing to the defective state of the law, and

the difficulty of convicting the poacher, with but little chance of success. All the efforts of the kind that have come to my knowledge, where the fisheries have not been private, have ended in disappointment.

AMICUS. Let us enjoy our fishing here, and be grateful for the sport we owe to protection; to the sacred right of property, opposed to communism without law. Our limited time, I think, was three days: after they are ended, where shall we next direct our course? I place myself, according to agreement, under your guidance.

PISCATOR. Our course, then, if you please, shall be towards my mountain-home; where you will have a hearty welcome, and where, if I cannot promise you good fishing, I can at least ensure you pleasant excursions, and a chance of some sport on our lakes and mountain tarns. We will, on leaving this, go by way of Lowther, that you may see that fine domain, with its noble woodland. We can stop at Poo-leybridge, at the foot of Ulswater—the lake amongst the mountains, as its name signifies. There the Emont, that river, as Wordsworth calls it,

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" — Hitherto unnamed in song,"

bursts out of the lake,—a fine stream, and not without fish, but more inviting for the beauty of its banks and the objects of interest they present of various times. A ramble will repay to

" — That monastic castle, mid tall trees,  
 Low-standing by the margin of the stream ;  
 A mansion visited—as fame reports,  
 By Sydney, where in sight of our Helvellyn  
 Or stormy Cross-fell, snatches he might pen  
 Of his Arcadia, by fraternal love  
 Inspired."\*

Or to those Druidical remains, the reported "Round Table" of King Arthur, recorded in verse by a brother poet.† One day will suffice for this ramble, and the next we can take boat and make our way to Patterdale, fishing leisurely as we proceed, and if wind and weather at all favour, we shall not be without sport,—we shall, at least, take some good trout; formerly charr also might have been taken, but since the opening of mines in the adjoining hills, this delicate fish has disappeared,—destroyed, it is supposed, by the water from the mines. Our

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\* Prelude, p. 143.

† Scott in his "Bride of Tremayne."

lake voyage, of about nine miles,—that being about the length of the lake, with our occasional fishing, selecting the best parts, well known to the boatmen, will occupy a good part of the day, so that it will be evening before we reach the further extremity. We shall time it well, for it is towards evening, when the sun is descending in the west, shooting its rays through the gorges of the “mighty Helvellyn,” that the upper part of the lake, its grandest part,—in grandeur, indeed, surpassing any other lake in the district,—is best seen. And I cannot but hope that this time we may be as fortunate as when I last made the ascent. It was—how well I remember it—a showery day, a time of broken weather. Just as we reached the foot of the pass, the sun, before hid, partially shone forth: mists and low clouds were gathering up, not quietly and regularly, but in strange commotion, as if there were a spirit in them; nor dull and leaden, but variously tinted and lighted, now opening and exposing, now closing and hiding the upper heights. These were some of the features of a scene, which, need I say, heightened as it was by various accompani-

ments,—the watery rocks, the tinkling rills, the sounding cataracts, was one of rare beauty and wild grandeur,—a fine example of living nature, such as is only to be seen in a mountain region, and in the angler's haunts.

THE END.

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