

tininess of the articulation will soon be forthcoming, and then we shall be able to hold telephonic communication solely by means of microphones. The marvellous fact that a little piece of charcoal can, as it were, both listen and speak, that a person may talk to it so that his friend can hear him at a similar piece a hundred miles away, is a miracle of nineteenth-century science which far transcends the oracles of antiquity.

The articulating telephone was the forerunner of the phonograph and microphone, and led to their discovery. They in turn will doubtless lead to other new inventions, which it is now impossible to foresee. We ask in vain for an answer to the question which is upon the lips of every one—What next? The microphone is likely to be very useful in strengthening the sounds given out by the telephone, and it is probable that we shall soon see the three inventions working unitedly, for the microphone may make the telephone sounds so powerful as to enable them to be printed by

phonograph as they are received, and thus a durable record of telephonic messages would be obtained. Reports also reach us from the other side of the Atlantic of a "megaphone" or ear-trumpet, which is for the ear what the opera-glass is for the eye, and of a "microtasimeter," based on the microphone principle, for measuring minute pressures, and extremely low temperatures, such as one-millionth of a degree Fahrenheit. An "antiphone," or contrivance for screening off sound and producing silence, even as light may be excluded to produce darkness, is a desideratum which may very soon be realised. We can now transmit sound by wire, but it will yet be possible to transmit light, and see by telegraph. We are apparently on the eve of other wonderful inventions, and there are symptoms that before many years a great fundamental discovery will be made, which will elucidate the connection of all the physical forces, and will illumine the very framework of nature.

J. MUNRO, C.E.

TRY BARMOUTH.



SI was casting about for a sea-side resort that would be likely to meet my ideal and the requirements of my family doctor, I accidentally heard of "Aber Mawddach," or Barmouth. When my doctor had advised me for my health's sake to try a change of air and scene, and "get to the sea-side," my head had become dizzy

with thoughts of stuffy boarding-houses and ill-cooked meals, noisy bands and ill-tuned barrel-organs, melting heat and fine dresses. I was told, however, that a sojourn at this obscure Welsh town would expose me to none of these discomforts, but that it would so benefit me as that I should return completely restored. Who could resist so fascinating a picture? I could not, and I therefore determined to go.

Living in a town in the centre of England, the choice of a route was attended with some little difficulty; but I at length came to the conclusion that my tastes as well as my pocket would be best suited by the Great Western Railway. I therefore proceeded to the Midland Metropolis, and started thence from Snow Hill station, having booked through to Barmouth. Travelling *via* Wolverhampton and Shrewsbury we enter the Principality at the north-east, the first station of importance at which we stop being Ruabon—a quaint old town that affords in its surroundings some indication of the nature of the splendid Mid-Wales district through which we shall shortly pass. Ruabon is an important junction on the Great Western Rail-

way, and as we take our seats in the train at the siding we pass by groups of "trippers," whose constant use of the second person singular, as we used to say at school, indicates their Lancashire origin, and whose well-filled provision baskets are a no uncertain guide to the capacity of their digestive organs. In other parts of the station there are tourists from Chester, Liverpool, and towns north; Shrewsbury, Wellington, and other towns south; also from the Midlands and places more remote, all seeking pleasure or health. While we wait there is a band of music outside the station, escorting a string of important-looking personages to one of those feasts in which friendly societies of most orders delight; while in our carriage a class of Sunday scholars take their seats, bent on a three days' excursion, under the guidance of their teacher, who seems to know every inch of the neighbourhood.

At length the well-known signals are given, the "staff" is handed to the guard—for the line between here and our destination is a single one—and we make a start. Plunging at once into the valley of the Ceirog, we pass Plasmadoc, the residence of the super-Protestant member for Peterborough, through Acrefair, Chwarele, and Trevor, to Llangollen (oh! the Welsh pronunciation, "Langothlen"), with its celebrated Maid, its ever-lovely vale, and its neighbourhood so rich in beauties and in memorable associations of Owain Glyndwr. Shortly after leaving Llangollen we reach a station whose name-board bears the following amazing announcement—"Glyndyvrddy." The tickets being examined here, I once inquired the name of the place. "Glyn—" (something), muttered the official. "What is it?" I repeated. "Glyndoo—" was all I could catch this time. "What did you say?" I again asked. "Glyndoodysir," he angrily replied all in a breath, banging the door to violently—as I

thought, greatly disgusted at my pertinacity and ignorance, while the other occupants of the carriage appeared to be very much amused at my eager thirst after knowledge (!), for they laughed heartily.

Skirting the river Dee we shortly arrive at Corwen, a small town on the eastern extremity of Merionethshire, and having a junction line with towns on the north coast; then passing a pretty waterfall we follow the vale of Edeirnion, and running through several unimportant places reach Bala, with its renowned lake and fine new College for Welsh Calvinistic Methodists. This lake, which is situated in an amphitheatre of hills, is the source of the river Dee, whose course along the picturesque valley we have been so steadily tracing—whose waters afford capital sport to the devoted followers of old Izaak Walton, and give life and health to thousands of our countrymen, and whose estuary is the delight of those who are privileged to look across its broad bosom. Proceeding, we run for five miles on the edge of the lake, and, passing through several places of less interest, enter a district of wild moorland, which as we pass on becomes enclosed by high and rugged hills, until we approach Dolgelly. A good story has been told in a popular periodical, which is worth recording as we near Drws-y-nant station. In the old coaching days, a tourist of an inquiring turn of mind joined the coach at Drws-y-nant on its way to Bala. Inside he found a stout gentleman enjoying a nap. When he woke the tourist asked whose was the farm they were passing? "Mine," was the reply, and the gentleman again slept. Another wakeful moment came, and another question: "To whom may that mountain belong?" "To me," was the answer, followed by another doze. Again came a wakeful moment, and the question, "Do you know who is the owner of that valley?" with the answer, "I am not sure, but I think most of it's mine." No more questions were asked, but when the coach reached Bala the tourist bolted into the hotel, saying, "I have been riding with either a prince or —!" "You are right," replied a native, "you have been riding with the 'Prince *in* Wales,' and a real good landlord!"

Passing a pretty church and several notable places, we reach Dolgelly, where the Great Western merges into the Cambrian system, but it possesses running powers to Barmouth, of which we shall shortly avail ourselves. But for a brief stay Dolgelly will be found deeply interesting, and it possesses several novelties to sight-seers. There is scarcely a thoroughfare that can properly be called a street, and the general characteristics of the place are described by old Thomas Fuller in his "Worthies" (1662) in the following remarkable manner:—"I know not whether it be worth the relating what is known for a truth of a market-town called Dolgelthy, in this shire, that: 1. The walls thereof are three miles high—the mountains which surround it; 2. Men come into it over the water—on a fair bridge—but; 3. Go out of it under the water—falling from a rock and conveyed in a wooden trough (under which travellers must make shift to pass) to drive an over-shot mill; 4. The

steeple thereof doth grow therein—the bells (if plural) hang on a yough tree."

Concerning this curious old town of Dolgelly, which formed the subject of a eulogy by "Christopher North" (Professor Wilson), a rather rich tale is told. It should be stated that, instead of streets, the town comprises a series of little squares intersected by narrow lanes, and that the houses are wholly built of large, heavy, greystones, with material in them sufficient to supply mansions for a town twice the size. The inhabitants are a bit proud of their one or two public buildings, of which the county gaol is mentioned as a good sample. "Beautifully situated in one of the most charming spots in the neighbourhood, it is unquestionably the ugliest building in Merionethshire," says an authority; and one day a joking visitor said to a townsman, "You Dolgelly folks can *worship* your gaol if you like, for you will not break the commandment." "How so?" asked the native. "Because," replied the wag, "it is not in the likeness of anything that is in heaven above, or in the earth beneath, or in the waters under the earth."

Taking our seats in the train again, and heading for Barmouth, we get a glimpse of Cader Idris (2,929 feet), and as we reach Penmaenpool station have a delicious glimpse up the Ganllwyd valley, with Moel Cynwch at its entrance, and many snug houses dotting the north bank of the river. Passing the chimney of the ancient reputed gold mines, we travel for seven miles on the edge of the "glorious estuary of the Mawddach"—a term which has become almost a household word in these parts since the late Justice Talfourd thus described the river. The scenery here is so delightful, embracing both mountain and river, that it has been compared to Drachenfels on the Rhine. Travelling on the estuary's banks and at the foot of the verdant hills we soon pass Arthog, with its charming waterfalls, and in a couple of minutes run into the junction. Then gliding over the bridge (to be mentioned hereafter) we reach our destination—Barmouth.

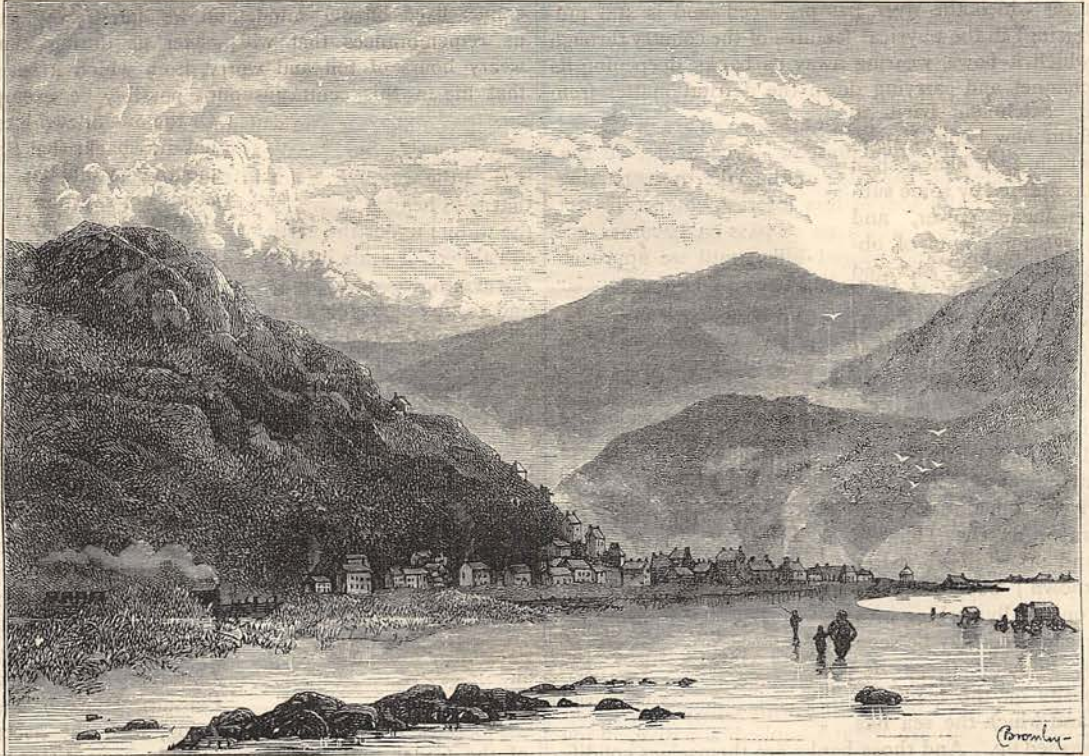
The town rises in irregular tiers on the sides of a rock, which have gained for it the high-sounding title, "The Gibraltar of Wales."

Notwithstanding one or two internal drawbacks, Barmouth is certainly growing in popularity, and it deserves to do so: "it is so unique in itself; so rich in its surroundings." One of its first beauties is the bridge over the Mawddach (pronounced "Mowthak"). It is half a mile in length, and the view to be obtained from it is one that excites the deepest emotions. "There are two books," says Sir Thomas Browne, "from whence I collect my divinity: besides that *written* one of God, another of *His servant*, NATURE—that universal and public manuscript that lies expanded unto the eyes of all." And here we may realise the idea. Looking inland we have Cader Idris to the right, rivalling the glories of Snowdon; Diphwys, another picturesque mountain, to the left; the estuary below, that seems to glide among a chain of hills which melt away in the distance like a fairy scene—in short, Switzerland in miniature. Seaward, one can take in a view that at once explains the odd name of

the town. The river beneath us is the Mawddach ; stretching out there at the *mouth* of it is a natural terrace, or *bar* of sand : thus we get *Aber Mawddach*, and *Barmouth*. Beyond it is the glorious bay rising and falling, bespangled with tiny white sails, having the appearance of sea-gulls on the wing. To our right is the "Gibraltar of Wales," and opposite to it are bold headlands, down whose sides we may see the freshets trickling like white lines painted on a huge canvas by some mighty artist. But look at the means by which we obtain these magnificent views ! "And who are

may be fanned by the deliciously cool breezes from the broad bay, while you watch the light and shade formed by the southern sun, and drink in the varying beauties and rich tints of hill and dale that would form a week's study for any artist ; or in the evening, at the close of a toilsome day perhaps, you may watch the lengthening shadows, and with your soul wrapt in the beauty of the scene, half unconsciously repeat the lines of Byron :—

"It is the hush of night, and all between
Thy margin and the mountains, dark, yet clear—



BARMOUTH.

your great men of the present day?" asked John Bright in one of those eloquent bursts for which his name is famous—"Not your warriors, not your statesmen : they are your *engineers!*" Thanks to the engineering enterprise and skill of the Cambrian Railway Company, we can walk over this noble bridge and have the enjoyment of this splendid scenery for the modest fee of twopence, which you pay to the signal-man who occupies that pretty cottage on the Barmouth end of the structure. The bridge, we are told, is a new wonder of Wales ; and so sure were a large class that it never could be made, that an M.P. who was supposed to know something about the locomotion of the county, declared he would eat the engine that first went over it ! The view from this bridge is ever charming—in the morning you may watch the dim twilight giving place to the dawn over yonder hills between which the river flows ; at mid-day you

Mellowed and mingling, yet distinctly seen.

* * * and drawing near,

There breathes a living fragrance from the shore
Of flowers yet fresh with childhood ; on the ear
Drops the light drip of the suspended oar,
Or chirps the grasshopper one good-night carol more."

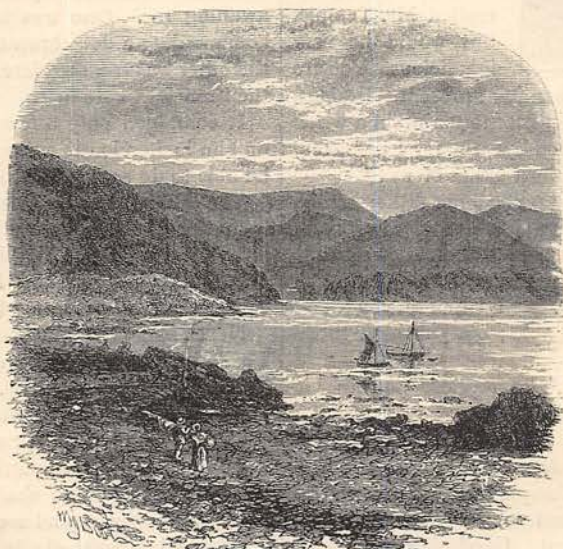
Barmouth affords endless opportunities for enjoying diversified scenery, or studying the beauties and wonders of nature in earth, air, or sea. In the rocks and pebbles there is many a thing worth looking at earnestly, and thinking over earnestly ; and at Mochras, a mile or two to the north, there are myriads of shells bestrewing a shore whereon the most timid matron may not fear to let her children ramble ; while of this you may rest assured, that in climbing the everlasting hills around you everywhere meet with fresh scenes of delight, and inhale pure bracing air—gathering in health and strength at every step and every breath.

From these hills, too, you may trace some of the effects of those natural forces which are continually producing mighty modifications of the earth's crust. The igneous rocks about us give evidence of volcanic action in the early ages of the world. Around the mountain lakes up the Cader yonder, you will find indications of the marvellous changes which were wrought when the glaciers crawled from peak to snow-line in the age of ice, smoothing and rounding the surfaces of those huge boulders, against the grain and across the strata, furrowing them here and there with deep parallel scratches. Along the valley you may observe the alterations which the river has produced (and is still producing) in the physical features of the country through which it flows, wearing away its banks, deepening its channel, and carrying down the detrital matter from its catchment basin to form new beds of rock, which ages hence shall be uplifted by some subterranean power, and serve for points of observation as elevated perhaps as those upon which we are now standing. You may say that it is little the river does in this way; and perhaps the Mawddach does not afford so striking an instance of river denudation and waste as the Thames, and other rivers better known; but that it is continually working with great force may be seen by noticing those deposits on the banks of sand which the sea has washed up. And those banks are themselves solidifying into a mass of rock that will be a "new sandstone" to the geologist of the future.

What glorious views we get from these elevations of the Welsh Gibraltar! In one direction there is a panoramic view of the Mawddach. From other points you may see the bold headlands at whose feet, just on the edge of the water, runs the railway to Towyn, Aberdovey, and the "Brighton of Wales;" and from others you may view the grand expanse of waters which lie spread out to the very horizon—Cardigan Bay melting into the azure of St. George's Channel beyond, which is heaving and swelling with the great tidal wave that flows from the broad Atlantic below. Standing 400 feet high almost perpendicularly from the shore, and where the slipping of a stone might send you rolling to the peril of your life, you drink in the grandeur of the scene and feel a sensation of rest and satisfaction never before experienced.

"The murmuring surge
That on the unnumbered pebbles idly chafes,"

can scarcely be heard so high. The only sound is the soft soughing of the summer wind as it sweeps over the face of the cliffs beneath us. The cool air is confined to the hill-tops around; beneath, from within a short distance of the shore, the sea is shrouded in soft summer haze, which seems to have gathered while we ascended. Suddenly, as we stand watching, a breeze from the eastward dives into the bay, and dispelling the mist leaves the sea one vast mirror—miles of flame-colour and purple, and anon of azure, sparkling as with countless jewels that dazzle the eye to look upon. The beauty of the scene becomes fixed on our mind, and we carry away with us remembrances that will cheer us during many weary hours of toil and worry, from which it seems that life in this century cannot possibly be exempt.



THE MOUTH OF THE MAWDDACH.

Of the one or two internal drawbacks that Barmouth certainly has, one needs not say more than that they are far outweighed by the rich natural scenery, bracing air, fine boating, safe bathing, and the variety of pleasant excursions by which the visitor to this primitive little town may be amused and invigorated. Space fails us to tell all that might be said of Arthog, with its picturesque waterfalls and its Swiss views; of the wonderful torrent-walk near Dolgelly; of excursions to Towyn, Aberdovey and Borth, Pensarn, Harlech, Festiniog, with the ascent of the Cader, and Snowdonia within easy distance; of the glorious salmon-fishing in the neighbourhood, and so much that makes country life in Wales enjoyable; of the wonderful legends that may be told on rainy days; or of the marvellous physical changes in the atmosphere around the hills that you may watch from your window.

Briefly, one can spend a holiday in Barmouth and neighbourhood without ever finding the time hang heavily, and may return, as I did, strengthened in body, invigorated in mind, cheered and comforted in spirit, which in these days is no mean advantage; for with the vast majority, as Kingsley says, "there will be no *mens sana* unless there be a *corpus sanum* for it to inhabit." My advice, then, to the health-seeker, as well as to those contemplating a tour of pleasure, is, "Try Barmouth." And unless the weather should happen to be of that sort which caused a friend of mine to inquire "if it always rained at Barmouth," you will realise more than I have here attempted to describe.

RAGLAN MOORE.