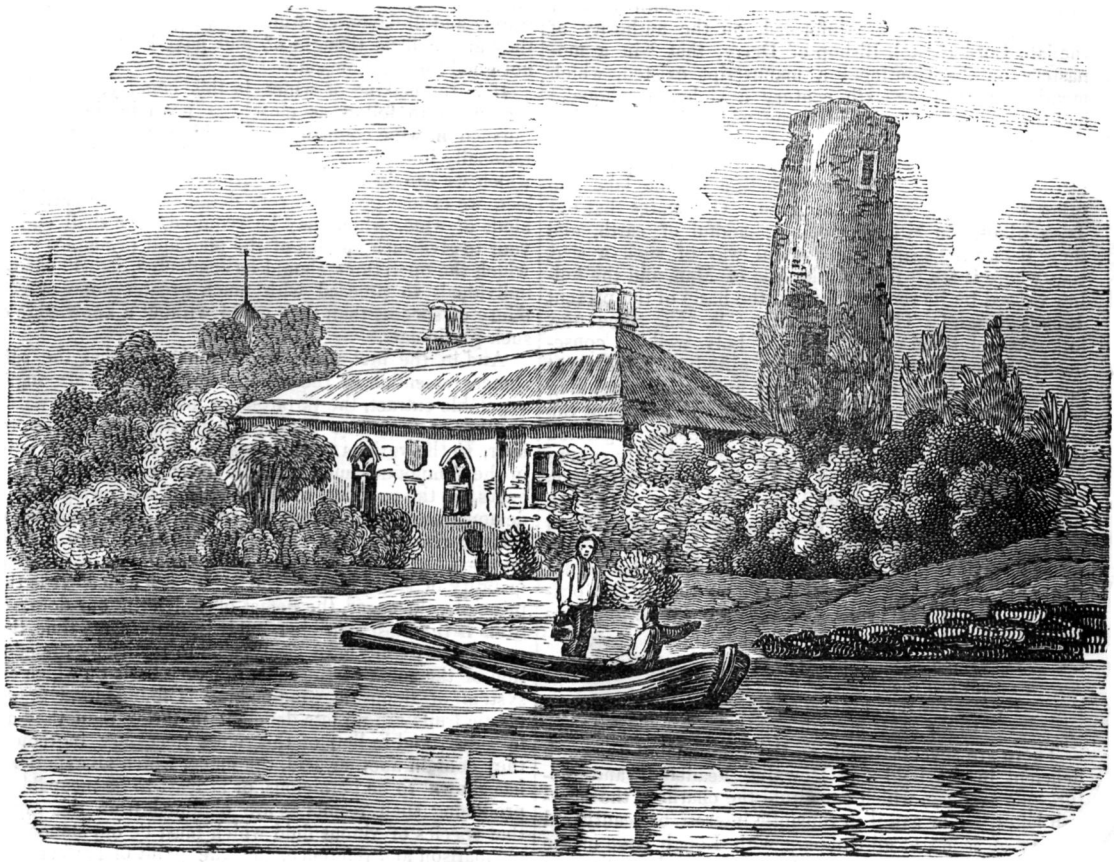
But as to the rain that is formed the moment the lightning traverses the air, it can only arise from one of the two following causes: Either from sudden precipitation of the water which was dispersed in the atmosphere; or from the combination of the oxygen and hydrogen gas, occasioned by the electric spark. Libes remarks that the rain of a storm takes place very frequently without there having been any cloud to disturb the transparency of the atmosphere; yet it cannot be supposed that the water, which is in very small quantities, and perfectly dissolved in the air, can be so precipitated at once, as to form an abundant rain. Hence he recurs, on the contrary, to the electric spark, which in its passage, effected with inconceivable rapidity, meets with mixtures of oxygen and hydrogen gas, the combination of whose bases becomes effected, and gives birth to those violent explosions, called thunder, as well as to a quantity of rain, proportional to the quantity of aeriform fluids; or, in other words, proportional to the oxygen and hydrogen gas, whose bases have been combined by the electric fluid passing through them. This hypothesis explains clearly how there may be lightning without thunder, though there may be many clouds in the air at that time; and why there should be many thunderstorms in hot countries, and few in cold ones. For if there be not the proper proportion of oxygen and hydrogen gas in that part of the atmosphere through which the electricity darts, no explosions can take place.

This theory is most ingenious; but it is not without its difficulties. Could it be satisfactorily proved that thunder was really the noise occasioned by the explosion of the two gases, as the report of a cannon is caused by the ignition of the powder, it would stand a fair chance of being the prevailing theory; but many objections can be urged against it. It has however been almost universally adopted by the Northern philosophers on the continent.

Ballymena, Co. Antrim. J. GETTY.

P. S. Similar lights have frequently been observed towards the South Pole, called *Aurora Australes*. See Philosophical Transactions, No. 461, Sec. 23—25; and Vol. 54, No. 53.



LORD O'NEILL'S COTTAGE, RAM'S ISLAND, LOUGH NEAGH.

This beautiful little cottage is situated in one of the small islands of Lough Neagh, at a distance of three miles from Crumlin, and about one mile and two-thirds from the shore, from which the traveller can easily procure a boat for the purpose of visiting the island. The cottage, which is extremely pretty, and furnished in the most tasteful manner, was some time since erected by Earl O'Neill, to whom it belongs.—The only object of antiquity here is a round tower, of which

> ——"Time, with assailing arm,
> Hath smote the summit, but the solid base
> Derides the lapse of ages."

We are informed by the Rev. Doctor Cupples, that its height is forty-three feet, its circumference thirty feet five inches, the thickness of the walls two feet eight inches and a quarter; the first story contains the door—the second, a window facing the south-east—and the third, another window, which looks out to the north, about three feet high, and one and a half broad. There are two rests for joists, and, in the first story, there is a projecting stone, about five feet and a half from the surface. Certain letters or characters appear to be cut on the stones, in the inside; but so obliterated are they by time, that they are quite illegible. A hollow sound or echo is heard on entering the building; this induced a person who lived in the island, to dig five feet below the surface, where he found several human bones, and some coffin boards. A skeleton was discovered near the tower some time ago, and bones and skulls in many parts of the island. These circumstances indicate, that a place of worship once existed here; and sanction the opinion of Dr. Ledwich, that the round towers were appropriated to ecclesiastical purposes. It might also be inferred from this that the island was, at no very remote period, a part of the continent. When the lake is at its summer level, a bank appears, extending from the island towards Gartree Point. Some persons who have examined it at low water assert, that the remains of a paved causeway are visible. The entire ground is laid out into walks, and covered with verdure. Several hundred rose trees, and

those plants and flowers which constitute the pride of our gardens, all flourish luxuriantly. Even those sides of the island which are almost perpendicular, are adorned with all those creeping plants and hardy shrubs which are adapted to the situation.

Lough Neagh is twenty miles long and fifteen broad, and is said to cover an area of about 98,000 acres; its circumference being about 80 miles 6½ furlongs. It lies in the centre of the province of Ulster, and is bounded by five counties—Antrim on the north and east, Tyrone also on the east, a small portion of Down on the north-east, Armagh on the south, and Londonderry on the north-west. It is about thirty feet above the level of the sea. Its situation, which resembles an inland sea, together with the celebrity of its petrifactions and pebbles, have always rendered it an object of considerable interest. It is not wonderful, therefore, that, like many objects much less within the range of romance, it should have the honour of a fabulous origin; and accordingly, while some early writers state that it suddenly burst out in the reign of Lugaidh Rhiabderg, in the 56th year of the Christian era, we are informed, on the authority of the late Lord Bristol, Bishop of Derry, that "in a monastery on the Continent a manuscript existed, which mentions, that in the sixth century a violent earthquake had thrown up the rock of Toome, which, by obstructing the discharge of the rivers, had formed this body of water; and that Lough Erne, in Fermanagh, was produced at the same time!" Of the formation of the lake two other wonderful accounts are given. One states that our Irish giant, Fin M'Coul, took a handful of earth, and flung it into the sea. The handful was of such a size, that where it fell it formed the Isle of Man, and the hollow caused by its removal formed the basin of the present Lough Neagh! The other account is, that some now forgotten saint had sanctified some holy well, in consequence of which the waters were gifted with the most miraculous properties. The only injunction attending their use was, that each person should carefully shut the wicket-gate of the well. A woman at length neglected this command; the indignant waters immediately sprang from their bed; the terrified culprit fled; but the waters followed close upon her very heels—and, when she sank down exhausted, closed for ever around her, and formed the present Lough, the length of which is just the distance she ran! The idea of a town being buried under the waters of the lake, is very prevalent among the peasantry; and Moore, in his well-known beautiful lines, has immortalized this remarkable belief:

> On Lough Neagh's banks as the fisherman strays,
> When the clear cold eve 's declining,
> He sees the round towers of other days
> In the waves beneath him shining.

There are several islands on the Lough; but they are deficient in the bold and frowning headlands and picturesque scenery, which constitute the charm of the Scottish lakes. Nor can it in romantic interest, or beauty and variety of scene, at all compare with Lough Erne or the Lakes of Killarney. Cunny Island lies a short distance from the Armagh shore. A small cluster, known by the name of the "Three Islands," is situated about four miles from the river Maine, off the point of the parish of Dunean. Lord O'Neill has planted all the islands with young trees, which have a very pleasing and ornamental effect—and from Ram's Island, in which the cottage stands, a bank of sand and gravel, eighteen or twenty feet broad, extends—it is usually covered with water; but in very dry seasons, it is broad, firm, and dry, resembling an artificial causeway, more than a natural deposit.

HOME-MADE WINES.

There is a very common prejudice against wines made from the fruits which grow in these countries. By many they are considered unwholesome; but this is altogether a mistake. When properly fermented, and made from good ingredients, rightly proportioned, they are not only equally as good for the stomach, but really much better than two-thirds of the wine sold as foreign growth. We have heard it stated, and we believe the fact, that a very great proportion of the wines sold as Cape Madeira, Lisbon, Calcavella, &c., are manufactured in London—not to mention the wretched stuff made from sloes, blackberries, and elder-berries, mixed with Spanish red wine, which is passed off, especially in country towns, for Port, Claret, &c. Surely then it would be only rational for those who have the means within their power of providing themselves with as pleasant and as wholesome a beverage for one-fourth the amount of what they now pay for these articles, to make themselves acquainted with the right method of manufacturing it. There cannot be a nicer process, nor one less generally understood, than that of fermentation; and yet upon the perfection of this depends in a very great measure the success of the operator in his attempts to make a palatable liquor resembling the wines of other countries. It has generally been considered quite sufficient to mix up a certain quantity of ingredients, and these in general badly proportioned, and just to allow them to take their chance as to the result—the natural consequence being that "Home-made wines" are, generally speaking, a nauseous compound of sugar, water, and ill-flavoured fruit: and hence the reason that they are so little thought of, and have been found really not good for the stomach.

If in the making of wines in this country, the operators were to follow as closely as possible the practice pursued in wine countries, a far different result might be rationally looked for. And although in the brief space which we can in our little Journal afford to such a subject, we cannot go into every detail, as to the particular kinds of wine, which may be required,* we shall endeavour to give such an idea of the plan and principles upon which the operations should be conducted, as will enable individuals to proceed with much greater hope or certainty of success than they could without a knowledge of such particulars.

And in the first place we may observe that the substances essential to the vinous fermentation, are sugar, vegetable extract, the tartarous or malic acids, and water. Neither of these can be dispensed with, and it is, moreover, to the various proportions in which they may exist in the compound fluid, that the most remarkable differences in the produce of fermentation are owing. It is demonstrated by abundant experiments, that sugar is in certain circumstances entirely convertible into alcohol or spirit. And those fruits which contain the greatest quantity of sugar furnish the strongest wine. It is this principle, the sugar, the defect of which in our domestic fruits is the most sensible; but it is, at the same time, that one which we are most easily able to rectify by the addition of the sugar of the cane, the very basis on which our system of domestic wine-making is founded. Our domestic fruits are no less deficient in tartar than they are in sugar, and in lieu of this most necessary ingredient, they contain another acid, the malic, which all experience has shown to be pernicious, or at least to be incapable of producing such results as are obtained from the grape, that species of vinous fluid which must be our standard of comparison and reference, and the point of perfection to which all our labours tend. It has not generally entered into the views of our makers of wines to supply this notable defect, although the means of doing it are as simple as those of remedying the deficiency of sugar—by adding tartar to the juice of our native fruits and sugar. If we use crude tartar, we obtain at the same time the further advantage of being able to avail ourselves of that portion of the natural leaven of wine which happens to be attached to it. Thus crude tartar will become a substitute in some measure for the yeast which is so often improperly used.

Considerable differences in the dose of tartar may be allowed. From two to four per cent. will be found a sufficient dose, in proportion to the greater or less sweetness of the fruit, the sweetest requiring the largest quan-

* Those who may wish for fuller information on the subject, we would refer to an Essay delivered before the Horticultural Society of Scotland some years since, and published by Longman and Co.