an inch." The question of rapid dilatation is one of great importance, and Dr. Duncan has done good service in drawing attention to it. Tents, of whatever substance they may be made, often produce disagreeable, and sometimes fatal, symptoms. Should, however, rapid dilatation be eventually preferred to the slower process, the instrument used must be one capable of being passed through a stricture without force, and afterwards, by some mechanical contrivance, made to expand so as to act in a direct manner upon the constricted tube. It must be done by art, and not by force.

ON THE SALUBRITY OF DIFFERENT PLACES ON THE NORTH-WEST COAST.

By THOMAS GIBSON, M.D., Bedford.

HAVING paid a good deal of attention to various watering places, more with an idea of their being conducive to health than subservient to pleasure, I have come to the conclusion that various sheltered situations in out-of-the-way corners on the north-west of Lancashire and Cumberland are overlooked on account of their remoteness from large towns or gatherings of the pleasure-seeking community. I write especially to point out some of those which are least conspicuous for the amount of rainfall; and in which, situated as they are upon sandbanks, the absorption of the water is so rapid, and the evaporation so small, that they are peculiarly adapted to those complaints which are benefited by a dry bracing atmosphere.

Southport and Silloth, according to my observation, are amongst those which come under this head, the latter place much more so, having been brought into notice more recently. Although somewhat out of the regular route of places visited, it is nevertheless one, in my opinion, deserving of note. The place is situated about twenty-two miles north-west of Carlisle, on the Solway. In front of the town, which has about a thousand inhabitants, are the Scottish hills of Galloway and Dumfriesshire. "I attribute the extraordinary salubrity," says the Rev. Francis Redford, "to its freedom from fogs, there being on an average not more than two foggy days in the year"; and to the constant presence of that mysterious agent called ozone.

I have paid two visits to this place myself; one about five years ago, and another for three weeks last August; and from my observation on the spot I was led to believe that the extraordinary elasticity of the atmosphere, so to speak, had a good deal to do with the healthfulness of the climate, the air being bracing and congenial, and the ever shifting winds tending to prevent that stifling sensation which one is apt to experience in more sheltered situations in the heat of summer. The Scotch hills in front are not nearer than seven or eight miles across the Solway, and Skiddaw and Helvellyn, which form the south-east background, are more than fifteen miles distant, at a rough guess; while, from the pier, from which boats ply daily to Liverpool, Dublin, and Douglas, may be seen the Isle of Man itself in the far south-west. It is very remarkable that, although heavy winds are not often experienced in the summer, yet there is almost always a pleasant breeze. No time can be fixed on when wind is likely to prevail, on account of the current of the Gulf Stream rushing in between the hills, as it were; and the length of the Channel, with the ebb and flow of the tide, making it, although an arm of the sea, something like a tidal river, may in some measure account for this uncertainty of the prevailing winds, although for the most part and for a longer duration they are south-westerly; *i.e.*, from the main ocean inland.

The mean annual temperature is about two degrees lower than in Cornwall and Devonshire; while it is less than a degree lower than at Torquay.

The peculiarity of this kind of climate leads me to think that it is of great benefit—in fact, practical results adduce it—in all affections where the general tone of the body is lax and low, and especially in delicate females it is of infinite advantage. Amongst other cases, I met with a gentleman while staying there, who had been under medical treatment both in Edinburgh and London for a long time without any benefit, he being a sufferer from general lassitude and want of appetite. He was a Scotch gentleman, but had been resident in London for the last thirty-five years. His physician, after giving him all the tonics he could devise for two or three years, sent him, as a last resource, to try his native air. After staying in Edinburgh for five months, and getting no better, he was casually made acquainted with this place, and he determined to break his journey and visit it. I saw him after five days' sojourn there, and he informed me that his sensations were such that it was like being in a new world. His appetite and relish for food were such as he had not experienced for some

years, and he confidently hoped that he was beginning a new era in his existence. The climate has seemed to do good in the numbness of the joints which is often complained of by delicate females; and the dryness of the soil renders exercise possible immediately after rain, for the rapid absorption of the water is proverbial.

There is another little place called Grange-over-Sands, not far from Lancaster, which is sometimes called the Torquay of the North. Its principal distinction is that it is remarkably sheltered from the north and east winds; it lies not far from Windermere, the queen of English lakes, and in front of it, stretching for miles in a westerly direction, is the broad expanse of Morecambe Bay.

Having been for a length of time an observer of those localities that are sometimes neglected in consequence of not being fashionable resorts, I have only to add that those places to which I have alluded more particularly will be found as beneficial as most others. For the overwrought man of business, or those whose means will not allow them to move to the generally recognised health-resorts, I would almost guarantee that invalids, of the class to which such a climate is adapted, will find that health and economy in living may be obtained much more readily, because more time can be allowed for a chance, where less expense is involved, of a radical cure in most cases.

In bringing these places under notice, my main object is to elucidate facts. Meteorology is a kindred science to medicine. Climate has a good deal to do with the constitutions of individuals; but where ozone abounds and fogs do not prevail, where marshes are drained and sandhills are in lieu of cesspools, we do not, as a rule, hear much of ague, consumption, or pestilential fever.

Mean Annual Temperature of the Air at the undermentioned Places.

	DEG.	SEC.
Silloth, latitude 54 deg. 51 m. 51 s.	49	1
That part of England between lat. 51 deg. and 52 deg.	49	2
Cornwall and Devonshire	51	0
The Isle of Wight, including Ventnor... ..	51	3
Torquay	50	7
Hastings	48	0
Worthing... ..	49	0
The Isle of Man... ..	48	1
Scarborough	46	5
Tynemouth	45	6

The influence of the Gulf Stream is apparent in the foregoing statement. To this alone can the high mean temperature of Silloth be ascribed, which, it will be observed, is higher than that of Worthing, on the south coast of England, and nearly the same as places situated between latitude 51 deg. and 52 deg. The prevailing wind at Silloth is south-west, which being in contact with the Gulf Stream in its course causes this comparatively mild climate.

The temperature is little below that of Torquay, but without its enervating and depressing influence, owing to the greater dryness of the atmosphere at Silloth. The average number of days in the year upon which rain falls is at Silloth 150; in Cornwall and Devonshire, 186; Torquay, 173; Tynemouth, 179; Isle of Wight, 142.

The mean daily range of temperature—or range from the lowest to the highest readings of the thermometer—is only 13.2 deg. The invalid who suffers from extreme cold will value this. Ozone is scarcely absent one day in the year. The place nearest approaching the quantity of ozone found at Silloth is at Osborne House in the Isle of Wight. The ozone scale at present in use by meteorological observers extends only from 0 to 10 deg. A scale extended to 20 deg. has been sanctioned by the Meteorological Society and the Registrar-General for this station only, and the full extent is frequently obtained.

For these particulars I am indebted to the Rev. Francis Redford, M.A., F.R.S.E., rector of Silloth, who for the last eighteen years has been a painstaking observer, and who has given the annexed table of the rainfall for seventeen years, the mean being 32.71 inches during the whole of that period.

Rainfall at Silloth.

INS.	INS.
1855 22.060	1864 33.367
1856 25.989	1865 28.736
1857 27.486	1866 36.760
1858 32.319	1867 26.477
1859 39.802	1868 37.679
1860 37.810	1869 32.237
1861 42.471	1870 26.387
1862 44.178	1871 30.640
1863 43.845	

Mean of seventeen years, 32.717 ins.