

No. 10.

ON THE SANITARY CONDITION OF THE TOWN OF DUMFRIES.

In Answer to the Queries issued by the Poor Law Commissioners.

BY DR. R. D. M'LELLAN.

1. Have diseases of the various forms of continued fever, and other contagious febrile diseases, been prevalent in any, and what, parts of your parish or district, and do such diseases recur at regular intervals, or are they rare and occasional only?

The various forms of continued fever have, every year, been more or less prevalent in Dumfries and its neighbourhood. As the manufactures, however, in this place are few and to a very limited extent, the town is less exposed, perhaps, to fever and other contagious febrile diseases which have been described as so constantly prevalent among the crowded population of Edinburgh and Glasgow, and in other manufacturing districts. At times, however, from whatever causes, diseases of this class have attacked the town very severely. In the winter and spring of 1838 there was a visitation of fever in Dumfries more severe and prolonged than had been experienced for several preceding years. It was chiefly confined to the poor, and to those inhabiting localities where the physical causes of fever were most numerous and active. The prominent characteristic of the weather was cold combined with dampness, though, while the malady prevailed, there were varied states and changes of the atmosphere. The provisions, more especially meal and potatoes, on which the poor had to depend, were, at the same time, high in price and of a bad quality. The privations to which many had to submit, with regard to food, were doubtless among the influential causes of the extension and long continuance of fever at that time in this place. Several instances occurred of great mortality in poor families living in villages or in isolated huts on the outskirts of the parish, where, remote from medical or other assistance, their condition was one of extreme distress. As a proof of the extent to which typhus and synochus then prevailed, I may mention that 23 cases existed in one close,* of no great size, which I myself attended. This close, like many others adjacent, was damp and ill ventilated, and contained some dunghills and other open nuisances. In most of the other localities, where the cases were numerous, a similar condition of things existed. During the winters of 1839 and 1840, fever did not prevail to such an extent as above described in the preceding year; but still many cases

* Close—a narrow alley from 4 to 8 feet wide.

were met with. During the summer last past only a few cases of fever occurred in the district of which I have the medical charge; but I may cite one as showing the connexion between the disease and those common and constantly acting sources of contagion which it is the object of sanitary regulations to abate. The patient's apartment, in the instance now alluded to, was in a confined back court into which its only window opened, and in which were two or three pigsties and dunghills, besides a pool in which varieties of liquid and other filth were deposited and left to stagnate. The corrupted atmosphere, from these accumulations, necessarily pervaded the surrounding tenements; yet, notwithstanding the obvious danger to the neighbourhood from the extension of disease under such circumstances, I believe, with the present imperfect powers lodged in the local authorities, it would be found almost impossible to carry into effect such measures of sanitary police as should suffice to overcome those sources of contagious disease.

In the spring of 1838, on witnessing the great prevalence of fever, and the difficulty of imposing a check to its progress, I published a letter in the Herald newspaper of this town, stating the need of a Fever Board, or of the adoption of some measure to protect the community from invasion of the disease. A copy of that letter, as conveying my impressions at the time, I herewith take the liberty to subjoin:—

"Typhus Fever."—Need of a Fever Board in Dumfries.

"There is no disease more justly to be dreaded than typhus fever, and none which, in this country, inflicts such extensive calamity, Others there are which occasionally break forth, and produce a greater and more immediate panic; but their visitation is, in general, short, and recurring only at distant intervals. Typhus, however, is a common and a constant foe, lurking, sometimes hid, yet ever ready to be roused into action, and to start on its insidious and fatal march. The sum of mortality of which it is productive is infinitely greater than that arising from the most fatal epidemic maladies, not excluding even the malignant cholera. Any one to whom this statement may occasion surprise need only consult the official medical reports, and bills of mortality, for our larger cities; or turn to the pages of any traveller who has written on Ireland, and in the pictures of misery and death which they contain, he will find ample evidence to satisfy him of its truth. To a great portion of the public the statistical facts, regarding the prevalence and fatality of typhus, are but slightly known, and little apprehension or sympathy is excited, only because the magnitude of the evil has not come emphatically under their own observation. For the last twelve or fifteen months typhus fever has prevailed in many cities and towns of the kingdom to an unusual extent, and without almost any check from atmospheric vicissitudes, being nearly as severe in summer as in winter. In London, Edinburgh, Greenock, Inverness, and Glasgow, the ravages of the disease were particularly marked; and in the city last named, the infirmary was

unable to receive one-half of the cases that sought admission. To this list of places must be added Dumfries, in which, and its suburbs, fever has prevailed, with some partial abatements, to an extent unknown for many previous years. Within the period above referred to, we find that the number of fever patients treated in the Dumfries and Galloway infirmary has exceeded 200, while the average number for many preceding years has ranged from 13 to 30, showing thus an increase for the past year of more than ten fold. We have no sure means of ascertaining the whole number of cases which may have occurred in the town during the same period, but we may arrive at an approximation to it by taking as our ground the number of cases admitted to the infirmary. There are upwards of 200, and we may safely assume, from a knowledge of facts familiar to the profession, that they do not constitute more than a fifth (possibly much less) of the total number. We must hence infer that more than 1000 cases of typhus, or common continued fever, have existed in Dumfries during the last twelve or fourteen months. This fact is well calculated to strike the attention as one of an unprecedented nature, in regard to the statistics of fever as connected with Dumfries. It is one, too, it need scarcely be observed, of serious importance to the interests of the community, and calls, therefore, for some public exertion to counteract, as far as can be done, the evils it implies. Regarding it in this light, we would respectfully suggest to the civil authorities, or to private individuals of influence, as a means towards so desirable an end, the institution of a Fever Board, conducted on principles similar to those of the Board in Edinburgh, the benefits of which have been long so decidedly felt and acknowledged. The principal duties undertaken by the Board are, when a fever-case has been reported to it by the medical attendant, to send its appointed visitors, and get the patient conveyed in a proper manner to the infirmary; thereafter, to inspect the apartments, and, according as they may require, to clean, ventilate, and fumigate them. Attention is also given to the washing of clothes to which contagious matter may adhere, and which might prove a source of further infection.

"It is well established that cleanliness and ventilation are two of the surest means of destroying contagious effluvia, or rendering them innocuous, means which, unhappily, are much neglected by the poor. If, in the first instance of a case of fever, these measures were promptly and properly taken, the febrile miasm might be destroyed, and the extension of danger entirely prevented. When neglected, as they commonly are, the intensity of the typhoid poison is speedily augmented by the exhalations from various filth, and a stagnant atmosphere. One after another becomes affected, each generating a fresh supply of miasmatic matter. In proportion as this spreads and impregnates a given space, the more severe does the disease become; and it is only stayed, perhaps, when there are no more individuals in the infected locality to assail. A distinguished practical writer has stated that 'the virulence of the febrile poison increases in power, not in a numerical, but in a sort of geometrical proportion to the numbers by which it is fed: so that if five patients produce a given ratio of pestilence, ten will produce, not as much again, but nearly a hundred times as much.' Thus in one single close in Dumfries there recently

occurred 23 cases of fever, and in several others the numbers have been high; but had preventive means been early adopted—had the closes been white-washed, and the dirt which polluted them been removed, there is reasonable ground to believe that the infection would not have spread to such a remarkable extent. Though typhus fever, from the force of its pre-disposing or auxiliary causes, is most prevalent among the poor, yet there is no order of the community secure from its invasion; and the more precisely is their danger, the more contagious miasm is abundant in the atmosphere around them. The fever, it may be remembered, which prevailed in Edinburgh in the spring of 1829, forsook unaccountably its usual localities, and was confined chiefly to the higher classes in the better parts of the New Town. The formation of such a board as we have ventured to suggest has another advantage to recommend it, viz., that while its operations are simple and well defined, they would be attended with little expense. It requires only to be managed with active humanity and discretion to ensure beneficial effects; and it would be able, we doubt not, to obtain the co-operation of the police, and to direct their attention to the removal of the filth which in many of our quarters is left to lodge and accumulate, corrupting the atmosphere, and acting deleteriously as a fomes to the specific febrile contagion.

"Dumfries, 16th May, 1838.

R. D. M'LELLAN, M.D."

With regard to other contagious febrile diseases, as small-pox, measles, scarlatina, &c., these occur in Dumfries and the surrounding district at irregular intervals. Scarlet fever has not been prevalent for some years past. From the commencement of last spring to near the end of summer an epidemic of measles prevailed which was fatal to many children; and it is worthy perhaps of being noticed that the great majority of cases occurred among the poor, and in those localities where other contagious disorders have usually their seat. With respect to another and still more alarming disease, small-pox, it may be proper here to state that the community in this town are less secure from its invasion than they might reasonably hope to be. This insecurity arises from the neglect of vaccination, to which neither the magistrates nor the medical men have adequate means of enforcing attention. It consists with my own knowledge that, either through negligence or prejudice, a large proportion of the children of the lower classes in Dumfries are allowed to remain unvaccinated. Small-pox cases of the worst kind have, at different times of late, occurred in the town and neighbourhood, and if the malady, as fortunately happened, did not widely spread, it could scarcely well be ascribed to the sanitary check of vaccination. It is, therefore, certainly desirable that some course should be tried to extend the vaccine protection among those who are disposed to neglect it. No instance has come under my notice or knowledge of inoculation having been performed from the natural disease, nor do I believe that it is ever attempted in this quarter of the country.

2. What are the seasons at which such diseases appear amidst any part of the population, and what are their characteristics?

Continued fever commonly appears in January, when the weather becomes severe, and prevails more or less till the close of spring. Several cases of fever, however, have occurred during the two last past months of November and December, and threatened to increase. About the end of the latter month a change of weather took place, and a steady frost, with a calm atmosphere, has continued up to the present date (16th January), and during this interval the disease apparently has received a check; but whether from the atmospheric change alone (from the uncertain nature of fever) it would be difficult to say. The probability is, judging from past experience, that the alterations of weather common to our spring months, in conjunction with the privations of the poor, common also to the same season, may considerably favour the spread and continuance of fever, and other diseases formidable in infancy and the decline of life.

The prevailing characteristics of the season around Dumfries may, in general, be said to be mildness and humidity of atmosphere. The most frequent winds are from the south and south-west. Easterly winds prevail in spring, but are not so severely felt as on the north and east coasts of Scotland. The situation of the town is low, on the banks of the river Nith, in the lowest part of the valley known by the name of the Nith. To the south, the town is open to the breezes of the Solway Firth, and on all other sides, to the distance of five or eight miles, is surrounded by a range of low and sheltering hills. I have heard it stated by some individuals, who have resided in the south of England, that the climate of Dumfries resembles in many respects that of Devonshire.

In consequence of the humidity of the air, the streets, lanes, and closes, in winter, are in a very damp and dirty condition.

3. Did the cholera at the time of its general prevalence prevail to any, and what, extent within the district?

Dumfries was so long exempted from cholera, while it raged in many other parts of Scotland, that the inhabitants indulged the hope of being spared the visitation of that dreadful malady. A case however occurred on the 15th September, 1832, which was rapidly followed by others, and the fatality was such as to excite the greatest panic and alarm. A great number of people forsook the town, many of the shops were closed, and the markets were deserted. Scarcely any one from the country would enter the town. The cases reported were for two or three days so high as 70; and the mortality 40. The total number of cases, about the end of November, when the disease ceased, and in a population of about 10,000, was 840; and the number of deaths 420. In the small town of Maxwellton, on the opposite side of the river to Dumfries, with a population of between 3000 and 4000,

the total number of cases was 250; the deaths 125. It may therefore with truth be said that the cholera prevailed to a greater extent in Dumfries than in any other town in Scotland. Its ravages were greatest in the closes and other ill-aired places, though it would be difficult to specify any external distinction in many of the quarters where it prevailed. The disease attacked many individuals of the better class, and residing in what are considered the better parts of the town.

4. What is the *external* condition, in the following respects, of the residences of the population amidst which such diseases occur?—

a. As to the contiguity of vegetable or animal substances in a state of decomposition, stagnant pools or undrained marshes, accumulations of refuse, either thrown from houses or otherwise?—

b. As to the means adopted or the means available for the *removal* of such substances, or the prevention of the generation of malaria; whether there are sufficient drains or sewers, adequately well supplied with water to dilute, and sufficiently sloping to carry off all such refuse; whether such drains are sufficiently *closed* to confine noxious exhalations from them; whether there is any regularly appointed service of scavengers or otherwise for the removal of such substances; whether there is such ventilation around the residences of, as to dissipate the noxious vapours apparently irremovable?

A great number of the dwellings of the poor, and of the labouring classes, are situated in closes where the ventilation is imperfect, and where refuse of different kinds is thrown out and allowed to accumulate. In those closes are frequently to be found dunghills, pigsties, and open privies. Little or no provision has been made to carry off refuse from such places by means of sewers and a supply of water. There is a service of scavengers in Dumfries, but its operations are confined to the mere public streets and thoroughfares, while almost nothing is attempted for the removal of nuisances in the more obscured quarters of the town. The drains are neither so numerous nor well constructed as to carry off impurities to the desirable extent. One large and principal drain, running up High Street, has never been completed or supplied with any water, so that it remains in a useless state.

5. Describe the *internal structure and economy* of the residences of the population amidst which contagious febrile diseases arise,—

a. State whether they, as well as the surrounding land, are drained or undrained?

b. Whether they are properly supplied with water for the purposes of cleanliness of the houses, persons, and clothing?

c. Whether there are good means of ventilation with a due regard to warmth?

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d. Whether there are proper receptacles for filth in connexion with the cottages?

Considerable improvement of late has taken place around Dumfries in the drainage of land, the system of tile-draining having been introduced and much employed. From several wells, and from the river Nith, an abundance of good water is obtainable for the purposes of cleanliness. This advantage, however, in the supply of water is much neglected, and many of the residences are consequently in a dirty and unwholesome state. There are no pipes to convey water into the houses. The introduction of water into the houses has been at times proposed, but there exists no prospect at present of this benefit being realised to the community.

The means of ventilation, with a due regard to warmth, are, in most instances, not good, and many are exposed to the injurious influence of cold. The small supplies of fuel which the indigent can procure are thus expended without producing the warmth which, by better arrangements, they might do. By means of stoves, which are in use in some continental countries where the winters are severe, a more equable heat might be maintained with a considerable saving in the expenditure of fuel. The poorer classes in Scotland are, in general, very inattentive to ventilation; and beneficial effects to health might result could a stricter observance be induced in reference to this particular. Receptacles for filth, in connexion with cottages in the country, or habitations in the town, may be said to be, in the great majority of instances, improperly situated. They are generally close to the houses, so that any deleterious influence they may have, must be more or less felt.

6. As to the internal economy of such residences, describe further,—

- a. Whether they are unduly crowded, and several families or persons occupy the space which would properly suffice only for a less number?
- b. Whether there are any inferior lodging-houses crowded by mendicants or vagrants?
- c. Whether there is gross want of cleanliness in the persons or habitations of certain classes of the poor?
- d. Whether there is a habit of keeping pigs, &c., in dwelling-houses, or close to doors or windows?
- e. Whether there is an indisposition to be removed to the hospitals when infected with contagious disease?

The residences of the poorer classes in the town consist generally of one apartment only, so that in many instances it is necessarily overcrowded, and when any contagious sickness arises, facilitates much the propagation of disease. There are several poor lodging-houses to which vagrants resort, and where the beds and their occupants are crowded into a very small space. In these and many other habitations the neglect of cleanliness is very marked, together with a want of cleanliness of person. It is quite common

to find pigsties in close contiguity with the houses, and even instances have occurred of pigs being kept within the house.

When infected with contagious disease, there is often an indisposition to be removed to the hospital, though, perhaps, neither comforts nor attendance can be procured at home. I was called to see a girl very lately, and perceived she had got fever. As there were several other children in the family, and all of them occupying the same room, I recommended the mother to let the girl be removed to the hospital. This she declined doing, and in a few days afterwards two of the other children were attacked with fever, the mother also herself, and they are all now in the infirmary, the rest of the family being consequently left in a helpless and unprotected state. In other instances, on the other hand, the force of moral persuasion has sufficed to overcome the indisposition of the patient to be removed to the hospital.

7. Is the extension of the diseases described in question 1 ascribable in any or what proportion to want of any of the necessaries of life; or to other causes than those specified in questions 4, 5, and 6? If so, distinguish those other causes so far as you are able, and the extent of diseases resulting from them.

In addition to such causes as damp, impure air, insufficient ventilation, neglect of cleanliness, and over crowded apartments, the extension of contagious and other diseases must be ascribed, in many instances, to a want of the necessaries of life. An assessment was made in the year 1834, but the funds raised have proved quite inadequate for the relief of the existing destitution. The number on the poor's-roll for the last year is 260, and the average sum distributed is from 6s. to 8s. per month. Many, however, who cannot get admitted into the roll, and who are, from various causes, enduring different degrees of privation, have to trust alone to the capricious chances of voluntary relief. The collections raised at the church-doors, now very small, are distributed by the elders to the above class of persons, who are denominated the "occasional poor," and the average sum they receive is about 1s. per week. By the treasurer's report, submitted to inspection last week, the number of persons receiving such occasional assistance for the last year amounts to 400.

In winter, many of the labouring classes of both sexes are thrown out of employment, who, together with many widows and children, find a precarious and difficult subsistence. A considerable portion of the poor population of the town is composed of Irish, who are almost all labourers, and the majority of whom in winter have little or no work.

In connexion with the subject of pauperism, I may mention that legal announcements have been here very recently issued for the suppression of begging and vagrancy in this county, and the penalties of the law set forth; but I may, perhaps, be allowed to

remark that, while so little and unsure a provision has been made for the relief of the needy and destitute, the stringency of the law seems scarcely compatible with the dictates of humanity.

In the two last winters, the articles of food on which the poor so much depend were dear, and of an inferior quality; and much privation, in regard to diet, was the consequence. I have seen many diseases in children, particularly those affecting the bowels, induced, I have every reason to believe, by scanty and improper food.

8. What is the common cost of erection and average cost of repairing each description of the tenements or cottages inhabited by the labouring classes?
9. What are the rents paid by the labourers for each description of tenements or cottages?
10. What is the general proportion of the rent paid by the labourer to his total expenditure?
11. What is the common cost of the lodgings to persons of the labouring classes?

The cost of erection for such cottages and tenements, as are inhabited by labourers in the country parts of the parish, may be stated from 20*l.* to 50*l.*, and the rent paid for them from 4*l.* to 8*l.*; but in most cases, it is right to notice, two families live in the same cottage. The rent of rooms in town occupied by the same classes varies from 25*s.* to 3*l.* The cost of lodgings to the labourer is from 2*s.* to 4*s.* per week, and his wages are from 1*s.* 6*d.* to 2*s.* per day.

12. Are you of opinion that any, and what, legislative measures are desirable or available for remedy of any of the evils existing within your district?

For the prevention of contagious diseases, it is, doubtless, desirable that some powers should be obtained for removing or diminishing, as far as may be practicable, their more immediate and palpable causes. Whether those powers could, with best effect, be intrusted to the magistrates, commissioners of police, or to a local board of health composed of different individuals, I can scarcely undertake to say. There is great need, I think, of medical attendants being appointed for the poor, as in England, who, in the course of their duties, would have the earliest opportunities of discovering contagious disease, and of reporting such to the proper quarter, when the fitting steps might be taken to arrest the danger, and remove any of the obviously existing causes that engender disease. At present the medical provision made for the poor in Scotland is imperfect, and cannot be relied on; and it often happens, under the present system, that the poor are ill for days, of fever or other distempers, before making their case known, or being able to procure any medical relief. A dispensary has existed in

Dumfries for some years past, but it is not well supported, and no remuneration is given for the services of its medical officers. The annual average number of patients applying at the dispensary for advice is 1000, and the number of cases I have attended this last year, at their own homes, has been 300. The population of the dispensary district to which I attend, I should think, might amount to 1600 or 1800. But, of the above 300 cases, there were 25 of fever, 3 of small-pox, and 24 of measles.

The total number of in-patients treated in the Dumfries Infirmary during the past year has been 404, and of these the number of fever patients was 68; cases of synochus 12, of typhus 56.

The number of out-patients for the same period, or those receiving advice and medicine, as at the dispensary, was 750.

From the foregoing data it will be seen that between 2000 and 3000 individuals, chiefly residents of the town, are in circumstances requiring gratuitous medical relief.

There is another charitable institution which may be noticed in this place: it is called the Hospital, or Poor's House, and is intended for the reception and maintenance of aged persons and orphan children, and is capable of accommodating from 40 to 50 inmates of the above description. It is supported by legacies and donations, and, so far as its sphere goes, answers its benevolent end.

A soup-kitchen has been established in Dumfries for some years past, and continues open, in winter and spring, from two to three months, according to the inclemency of the weather and want of work. The distribution of soup has proved a timely aid and benefit to a large class of poor.

13. Have any, and what, voluntary exertions, been made to improve the external or internal economy of the residences of the labouring classes within your district, and if so, describe their nature and effects?

I am not aware that exertions to any appreciable extent have been made to improve the external or internal economy of the residences of the labouring population. I am disposed to think that landlords are in general indifferent about the due degree of comfort and repair in respect to such residences. The Highland Society of Scotland has instituted premiums for improvements in the cottages of the peasantry; and this encouragement, aided by other exertions, will in time be productive of beneficial results. At the general meeting of the society, recently held, it was stated that the interest excited by the cottage premiums continued to increase, and that, in terms of the regulations of the society, they would this year be in operation in 32 parishes.

During the prevalence of the cholera in Dumfries exertions were made to have the closes cleansed and fumigated, and the houses aired and whitewashed; but since that calamitous time few or no prophylactic measures have been attempted. Within

the last few weeks the magistrates have given notice of their intention to have dunghills and other nuisances removed if deposited, as heretofore, in certain public or exposed localities. This correction, however, of one particular evil will, in all probability, be to a very limited extent; and I may remark that, from indisposition on the part of the people, it is to be apprehended that endeavours to alter the economy of their dwellings or habitual modes of life will, at least in many instances, be attended with considerable difficulty and opposition. From all the facts, however, which have fallen under my own observation, and from what I have learned from the reports of others, it cannot, I think, be disputed that some system of sanitary measures is both necessary and desirable; and that, while benefiting the poor in particular, it would contribute to the welfare of the community at large.

Dumfries, January 22, 1841.

R. D. McLELLAN, M.D.

No. 11.

REPORT ON THE SANITARY CONDITION OF THE TOWN OF AYR.

BY DR. JAMES SYM.

AYR stands upon an extensive bay on the west coast of Scotland, where the Atlantic Ocean forms the commencement of the Frith of Clyde; and opposite to this bay, at the distance of about 15 miles, lies the mountainous island of Arran, the intervening channel being the ordinary course of navigation for the shipping of Glasgow and Greenock. The *water* of Ayr divides the royal burgh from the northern portion of the parliamentary burgh, and the *water* of Doon falls into the sea two miles south of the town. The banks of these two rivers are thickly planted with the pleasure grounds of some of the principal proprietors in the county, and they comprise the most interesting portions of the land of Burns. The heads of Ayr, which terminate the Brown-Carrick Hill on the west by a range of picturesque precipices having their bases washed by the sea, form the southern boundary of the bay; and betwixt these and the Dundonald hills, which approach the coast about six miles north of Ayr, there is a sandy plain of from one to three miles in breadth, rising very gradually as it recedes from the shore, till it becomes bounded on the east by considerable elevations of stiff clay land. The sandy subsoil of the plain is covered by a scanty layer of vegetable mould, which has been brought to a state of high cultivation by constant supplies of manure bestowed upon it by a skilful and enterprising race of farmers.

The sand lies upon a stratum of new sandstone; this is quarried in the immediate vicinity of the town, and yields excellent materials for building. Beneath the sandstone there are valuable beds of coal, and the mining and exportation of the coal afford employment to a large portion of our labouring population, and constitute the staple trade of Ayr. The valleys of the Ayr and the Doon are richly wooded; but from the shallowness of the soil and exposure to the west winds, the plain at a distance from those valleys is generally deficient in trees. The ground upon which Ayr itself stands is very flat, its declivity towards the sea being scarcely perceptible, and that towards the river on either side not considerable.

The climate of Ayr is mild in respect of temperature, more so I believe than that of any other place on the mainland of Scotland. This arises from the circumstance that the winds for about two-thirds of the year are westerly and partake of the temperature of the ocean; whilst the north and east winds only prevail for short periods, and are somewhat, though imperfectly, intercepted by the hilly amphitheatre that bounds our plain. From comparing thermometrical tables kept at Ayr with those kept at Greenwich, I am satisfied that the average temperature of our winters approaches, if it does not equal, that of the mildest districts of England; and it is certain that snow lies for a very short time in the immediate neighbourhood of Ayr. At Ayr the mean temperature of the month of December, 1840, at 10 A.M., was 37·8° Fahr.; the minimum at that hour being 26° (on the 24th), whereas at Greenwich the mean temperature of the same month at 9 A.M. was 31·3°, and the minimum 18° (on the 23rd). We must make a deduction for the difference of an hour in the times of observation, and for the observations in the one instance being made at Croom's hill and in the other nearly at the level of the sea, still a difference of 6·5° is much too great to be accounted for from these circumstances. Whilst the temperature is moderate, we cannot boast of the moderation of our winds; those from the west are often extremely tempestuous, although they are by no means cold. They are generally accompanied by heavy rains; indeed almost the whole of our rain falls during high westerly winds; and we are not infested with those fogs and drizzling showers which are so frequent and so unwholesome in the narrower parts of the Frith. On the contrary, our atmosphere is clear, pure, and elastic; which causes the natives of Ayr, when they visit inland towns, to complain much of the oppressive thickness of the air, so different from what they had been accustomed to inhale. The bed of sand on which the town is built renders the soil remarkably absorbent, so that immediately after the rains have subsided the principal streets of the town, and the beautiful walks in the neighbourhood, appear dry and clean. This feature strikes visitors, who have been accustomed to the wet and muddy streets of such