ON THE EPIDEMIC OPHTHALMIA

WHICH HAS PREVAILED IN THE WORKHOUSES AND SCHOOLS OF THE
TIPPERARY AND ATHLONE UNIONS.

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SOME notice of my reports to the Poor-Law Commissioners upon the Epidemic Ophthalmia which has prevailed for some time in a few of the Irish workhouses having already appeared in the newspapers, and a few detached fragments having been surreptitiously obtained and erroneously printed for the purpose of review, I am induced to write the following observations, and to give a corrected edition of my *Medical Report* to the profession. I have but few remarks to make with respect to the observations appended to the fragments which have been published elsewhere. They are these:—I was applied to, in the beginning of December 1849, to visit and report on the Ophthalmia which then raged in the Athlone Union. I did not do so, because I did not consider the sum offered a sufficient remuneration for my professional services. Upon inquiry, I have been informed that, in accordance with my desire, a copy of my letter to the Medical Officers of the Tipperary Union was forwarded by the Commissioners to the Medical Attendant of the Athlone Workhouse, which I visited a few days after I had been in Tipperary, and where the same form of disease prevailed; and that, in other instances, it was applied for by the medical attendants themselves.

With respect to any previous reports which may have been made to the Commissioners upon the Ophthalmia, I have nothing whatever to do. If the guardians of any particular union do not choose to adopt, or the Poor-Law officials to enforce the recommendations and suggestions contained in a report, no medical man should take offence thereat, any more than he would with a patient in private practice, who sought his advice, received his prescription, and paid the usual fee, but either from perverseness, indolence, or want of faith in the proposed remedies, or in the mode of recommending them, gave no further attention to the matter.

It was not my original desire or intention to write upon this Ophthalmia, but to leave to the Poor-Law authorities, to whom they belong, to publish my Reports or not, as they thought fit, in their own proceedings: but the use lately made of my letter to my medical brethren (not of the Athlone, but of the Tipperary Union, on which alone I was called on to report), has compelled me to adopt the present course. I cannot, however, but feel complimented by finding any one generous and philanthropic enough to print and publish at their expense any portion of my writings, no matter how obtained; and I only regret, that such publication was not through a medium where it might have had a more extensive circulation. How far that letter is in accordance with the established rules of consultation communications, and professional etiquette, even where private patients are concerned: and how far the statements and recommendations contained in it are based on modern observation, and the scientific management of the disease under consi-

deration by the most enlightened ophthalmic surgeons of the present day, the medical profession are the best and only judges. It is gratifying to me to be able to state, that the medical officers of the Tipperary Union not only willingly adopted all my suggestions, but have, in a written communication, expressed their satisfaction at the course which I pursued. The notes now appended to my Medical Report are the only additions made to it since it was sent to the Poor-Law office. Neither has it in anywise been altered or amended, except so far as the usual corrections of the press required.

The lamentable consequences of the Irish epidemic do not seem to be the result of any defect in the Poor-Law, any more than the ravages committed by the Egyptian Ophthalmia among the soldiers of the British Army in 1803 arose from the inadequate resources of the Minister of War, the defective regulations of the Horse-Guards, or the ignorance of and insufficient treatment adopted by the medical officers. In both Tipperary and Athlone, the local guardians were superseded, and vice-guardians appointed; but whichever they are, the guardians of the Irish poor, paid or unpaid, should learn that it is neither justice to those entrusted to their care, nor economy to the rate-payers, not to provide suitable accommodation and other necessities for the miserable patients, affected with a disease like that on which I have been called on to report. If it were a fatal disease, the result, according to the doctrines of some, might justify the means,—at least the mortality would lessen the expenditure; but it is not so. By this disease, people are only rendered incapable of earning their livelihood, and, in some instances, of ever leaving the workhouse; and so they remain a permanent tax upon the union. It should also be generally known, that blind people are remarkably long-lived. It, therefore, behoves the guardians and local authorities of our Irish unions, calmly and gravely to calculate the probable expense of the support for life of blind persons under twelve years of age, before they allow them to be crammed by hundreds into an unhealthy store or a damp sunken malthouse. To some very philanthropic persons, the doctrine may appear revolting and uncharitable; but it does, nevertheless, appear to me inconsistent to decorate the dead body of a pauper in the paraphernalia of shroud and coffin, merely in compliance with popular usage, while the living pauper is unfurnished with the means of retaining that health and those senses, without which there can be no hope of his ever regaining independence.

Many a good soldier, not slain in battle, has been, and is still, carried to his "rest" with "his martial cloak around him", without exciting the indignation of his comrades! Some outcry may perhaps be made by well-meaning, but uninformed persons, on account of the number of people who have lately become blind in the Irish workhouses. Before, however, such persons come into the field, they should require from the Horse-Guards an accurate statistical return of the number of soldiers who, after a considerable sum of public money has been expended on their training, and, as frequently happens, their transport to the Colonies, are annually invalided, and sent home either totally blind and so entitled to a pension for life, or partially deprived of vision and furnished with a pension for a limited period; and, be it remembered, the blindness under which they labour has arisen from the very same disease as that which has spread through the paupers in some of the Irish workhouses,

It must be borne in mind, that the observations contained in this paper are of a special, not a general nature; applicable to a peculiar affection appearing under circumstances, and among a class of people, such as neither this nor any other so-called civilized country ever presented before. Did not the late "famine fever," as it was termed, and the dysentery present such peculiarities as never had been observed in any of our previous epidemics? I was called on to report, not on Epidemic Ophthalmia merely, but on the exact condition and the best method of arresting the disease under which the paupers in certain districts laboured. To occupy any portion of this paper with pages of extracts from the writings of Vetch, Saunders, Mackenzie, Lawrence, and others, whose works are accessible to the profession, or to give a *réchauffé* of opinions and descriptions promulgated a quarter of a century ago, would partake more of system-making and book-learning than observation. I shall therefore confine myself as much as possible to facts of which I have been myself cognizant, or of which I have received accounts from credible authorities.

OPHTHALMIA IN THE TIPPERARY UNION.

In compliance with the request of the Poor-Law Commissioners, I visited the Union Schools, the Auxiliary Workhouse, and the Ophthalmic Hospital at Tipperary, upon the 12th of last August, and those at Athlone on the 23rd of the same month. From the evidence which I received, and from my own observations in the neighbourhood of the town of Tipperary, it would appear that an Epidemic Ophthalmia had for a considerable time prevailed among the lower orders in the adjoining country parts. The injurious effects of this disease, in the form of complete loss of one eye, staphylomata, leucomata, opacities of the cornea of various shades, and chronic Ophthalmia, etc., were manifest in a great number of the people I encountered; particularly in those emaciated and broken down in health, whom I saw in the town of Tipperary. Indeed I was strongly reminded during the day I spent in Tipperary, of scenes I witnessed many years ago in the bazaars of Egypt.

From the account given me by the physicians of the Union, it appears that the disease first commenced among the pauper children of the girls' school in the town of Tipperary, in the spring of 1849, and that it went on progressing until October in that year, when it assumed a more violent and decided character, so as to require their being removed for treatment to a separate house, the ordinary hospital of the parent workhouse being so much overcrowded as not to permit of their reception. What number of persons labouring under Ophthalmia were treated in the wards of the workhouse hospital between spring and autumn in the year 1849, I have had no means of ascertaining. A separate hospital becoming necessary for the reception of Ophthalmic patients, the guardians hired an unoccupied house with an adjoining store, in the town, for that purpose. At the time of my visit, it had been given up upon the recommendation of the medical men and the inspector, and the children had been removed to a much more healthy locality; but I nevertheless inspected it and reported upon it to the Commissioners, in the hope that some means will hereafter be taken by the Poor-Law authorities to prevent the guardians and local officers,

many of whom are quite unacquainted with the value of pure air, cleanliness, warmth, proper ventilation, sewerage, and other sanitary matters, in arresting the progress of disease, or contributing to the comfort of the diseased, from again falling into like errors. I am fully conscious of the difficulties which beset this subject, and of the ignorance as well as the apathy which prevail upon it among all classes of the community,—an ignorance and an indifference lamentably exhibited, even in the private dwellings of some of the middle and better orders of society,—as every medical man engaged in extensive practice is well aware. Who amongst us has not daily to enter houses where he is immediately assailed with a stench of sewers, kitchens, areas, and privies? I need not describe the scenes which meet him in his further progress to the dormitories, within the dark confined space of one of which may be found his patient, scarcely visible amidst the voluminous coverings of a feather bed. The bed itself, surrounded by thick close-drawn curtains, is generally one half the size of the room, and the air of the apartment is at times stifling in the extreme. If a Poor-Law guardian is willing to let his wife or child stew out a fever or a pneumonia under such unhealthy circumstances, we cannot expect him to provide wholesome accommodation for the pauper. But the authorities in a distant town or country village can scarcely be blamed for such matters, when we remember the condition in which the poor of Dublin were left at the fever-sheds in the beginning of the frightful epidemic of 1846, until attention was called to the subject by my lamented friend, Dr. Curran. Nor can we well exclaim against guardians and inspectors for defective ventilation in auxiliary workhouses and temporary schools, when, in some of the first-class houses of the metropolis, partial congestion is daily experienced by those who sit out a crowded dinner under the heat and glare of six or eight gas-burners placed in different parts of the room, without a single aperture in the ceiling or walls to permit any portion of the vitiated air to escape!

What is to be done, when an epidemic of an infectious character suddenly either springs up among the people, or spreads within the workhouse or its schools? Separate accommodation must be procured. Tents and sheds have been the usual means employed by Boards of Health and other authorities in such emergencies. For fever and dysentery, these may be applicable during the warm months of summer; but the localities for their erection should be properly chosen, in order to prevent such an accident as occurred at Navan during the last epidemic of fever, when, owing to their exposed situation, several of the fever-sheds were swept away one night, and some of the miserable patients left uncovered during the hours of storm and rain which followed. When an epidemic like Ophthalmia, affecting children and young persons, or when cholera, or any similar disease, which cannot be well treated in temporary sheds, breaks out, the only resource left for those who have to provide for the poor, is to hire a house, the first that can be had; and as few persons are willing, even at a high rent, to let their houses for hospitals, the consequence is, that *of necessity* old dilapidated dwellings long unoccupied, mills, corn stores, breweries, and such other buildings, with low, ill-ventilated lofts, and unprovided with sewers or privies, are really the only ones which can be procured. But still, some of the modern knowledge in sanitary matters, so much boasted of by the learned, and at

present occupying both the public mind and the attention of the legislature, should be put in force, to render these buildings as wholesome as possible under the circumstances. I therefore, in my Reports, impressed upon the Commissioners the necessity of appointing some proper officer to see that such matters are strictly attended to, both in the choice of a locality, and in the best mode of turning a store or dwelling-house into a suitable hospital. The majority of guardians in Ireland at present know nothing of such things, and even if they did, might be unwilling to encounter the necessary cost. Inspectors are uneducated in sanitary concerns; and until a course of lectures upon hygiene, somewhat similar to that required in the army, is made a part of the curriculum of education by our schools and licensing bodies, we cannot expect the medical men of the civil service to be thoroughly acquainted with the best mode of applying all the modern improvements of science to the construction of hospitals, their heating, ventilation, lighting, etc., etc. Certain it is, that it would not only be just and merciful towards the poor, but in the end, economical to the rate-payers, to procure the services of a person educated in medicine and hygiene as well as in architecture, in order to fit up these temporary hospitals. I do not consider these observations a digression from the matter in hand, and I have been induced to make them, from the impression which I received on visiting the temporary hospitals provided for ophthalmic patients at Tipperary and Athlone. Upon inquiry at both these localities, why the hospitals which I visited were chosen, the answers were, that they were the only ones which could be procured at the moment;—good; but much more could have been made of them if such a system as I have suggested had been carried out. With respect to the influence of the medical officers of the Irish workhouses generally, it must be remembered that they can only suggest, that they cannot enforce, and they are frequently the family attendants upon the guardians and other officials, as well as the rate-payers, and moreover, that their income is more or less dependent upon these persons.

In answer to a series of questions which I addressed to Dr. W. T. Reardon, the assistant-physician who has had charge of the ophthalmic cases at Tipperary, he informs me, and his answers are confirmed by my own observations, that “the class of patients attacked were debilitated starved female children; generally those recently admitted, worn out by previous want and privation of every kind, many having refused to come into the house in consequence of its crowded state, until they were exhausted to the last degree. Several were admitted this year (1850) labouring under Ophthalmia; some had already lost one eye, and the other was in a state of violent inflammation. The general health of the workhouse was very bad indeed; we had cholera, dysentery, fever, and small-pox, as well as several cases of gangrene and dropsy. There was no proper sewerage, neither was there sufficient water to cleanse the entire house or purify the privies, except what a horse brought daily from town. The vice-guardians got some sewers made; but from these being frequently opened to admit others, the smell from them was very foul. The deaths in the workhouse, since spring, have been very numerous, the mortality varying from thirty-six to fifty weekly. Few men had the Ophthalmia; I would say, not one healthy man contracted it, and very few healthy women, except the wardmaids.”

From October 1849 to March 1850, there were 1525 cases, 848 males and 677 females, treated in the Jail Lane hospital of Tipperary. In consequence of the representations and remonstrances made to the Poor-Law Inspector by the physicians, to the effect that it was impossible to afford the necessary treatment to the unhappy inmates of this establishment, it was closed upon the 18th of July last, and the 302 patients whom it contained were removed to a large building in Meeting-house Lane, also in the town of Tipperary, and which was originally built for a corn store. Although the building used as an hospital in Jail Lane had been given up, and consequently did not contain patients, I conceived it to be my duty to visit the premises, in order to point out to the proper authorities how unsuited it was to the purpose intended, in the hope that, by so doing, the like occurrence might be prevented in future. I likewise entered into a minute description and admeasurement of the newly-formed Ophthalmic Hospital in Meeting-house Lane, shewing that it was improperly ventilated, heated, and lighted, that its wards were, from the very nature of the building, quite too low, and that it was most disadvantageously situated, having but a most imperfect sewerage, not possessing a proper privy, but in lieu thereof, a moveable one, by means of a soil-cart; and that the yard, the only place in which the children could take exercise, was quite too small, being but twenty-four yards long by twenty broad, surrounded by high walls, one of which was the side of the Dysentery Hospital. I pointed out such means as appeared to me absolutely necessary, to render this hospital habitable during the ensuing winter; but I also strongly urged upon the Commissioners the propriety of recommending the guardians to take a country place, the residences of some of the neighbouring gentry (so many of which are now unhappily vacant in Ireland), to which all the children should be removed as soon as possible. In an Essay such as this, it is unnecessary for me to enter into the same minutiae with respect to those defects in the establishment, as I detailed in my Report to the Commissioners; but it is of great importance that those who are the legal guardians of the poor should understand, that where a vast number of persons, whose health and spirits have been previously broken down by want and privations of every description, are congregated together, attention to cleanliness, diet, clothing, lodging, warmth and ventilation, the means of taking exercise, and some provision for amusement or occupation, is of as much, if not of greater importance than any merely medical treatment that could be adopted. Such treatment, after all, must be based upon some general principle, and cannot, certainly, with the small staff of attendants allowed by the guardians, enter minutely into the circumstances of each individual case. The yard of the hospital, although clean and well gravelled, was totally insufficient for the children to take proper exercise in: I therefore recommended that such of the children as were convalescent should be sent out into the fields daily to play, and that gymnastics and other means of amusement should be provided, until proper accommodation were procured for them in the country.

There had been 241 new cases admitted since the hospital was opened, making in all 2068 cases of Ophthalmia in the Tipperary Union, between the 29th October 1849, and the day of my inspection,—the 12th of August 1850. I found 340 patients, 170 boys and 156 girls, aged from five to fourteen years upon an average, and 14 adults, in hospital. My first

business, after having inspected the premises, was to procure a registry, by means of one or two intelligent clerks, of the name, age, and sex, of every inmate, in order that I might attach such observations to each entry, as would enable me subsequently to draw up a statistical report upon the condition of the disease in the workhouse generally, and on the present effects as well as probable results of the Ophthalmia in each individual case. Without such documentary evidence, I believe it would be quite impossible to make anything approaching to an accurate statement, as to the result of an epidemic of this nature in three hundred and forty cases. Moreover, vague rumours spread with respect to the number of persons who become blind in such and such unions; and, as even medical men will differ on such subjects, and consequent discrepancies appear in reports, I would impress upon persons similarly engaged, the propriety of adopting the means which I have described for registering the cases. And as an unjust outcry of this nature might be raised against the permanent medical attendants, I thought it right that the commissioners and guardians should distinctly understand that the meaning to be attached to being "totally blind" was,—that both eyes had either become wasted and collapsed, or so much disorganized as to render all hope of vision irredeemable. But there are now many persons in the workhouses, with closed pupils, extensive leucomata of the corneæ, etc., the results of the Ophthalmia, at present depriving them of vision, who may hereafter, by treatment or the effects of nature, recover a fair amount of sight. Thus, in those whom one practitioner considers at the moment "blind," another may see a fair hope of recovery by operation or otherwise, and each will, consequently, place such persons in a different category. The admissions into the hospital from the 90th of March to the 20th of August, varied from 17 to 70 weekly, the disease appearing to increase with the warm weather. Statistical statements such as this, where I myself could not have been aware of the facts, were kindly furnished me by the assistant-physician who has had charge of the Ophthalmic Hospital.

In company with the medical attendants, Dr. Evans and Dr. W. T. Reardon, I then proceeded to examine the cases individually, and to consult with these gentlemen as to the treatment to be pursued, and the best mode of arresting the further progress of the epidemic; and with their *sanction* and *concurrence* I addressed to them the letter which will be found appended to this communication, and of which such unwarrantable use has already been made for private purposes. If the Poor-Law authorities, having been officially informed that Ophthalmia is spreading among the inmates of a certain workhouse or its schools, forward a copy of that letter to the medical attendant thereof, it remains for him to judge how far the disease, which I have described, is the same in those persons under his care, and to exercise his judgment with respect to his adopting the suggestions conveyed, at their desire, to my medical brethren in Tipperary.

Among the 340 patients, each of whom was individually inspected, were to be found cases of Ophthalmia or its results in all stages, from those recently affected either with simple conjunctivitis, muco-purulent Ophthalmia, or the more violent and purulent form of the disease, to those presenting collapsed globes, or staphyloma, either of the cornea and iris, or of the entire eye; but the vast majority laboured under chronic

Ophthalmia with granular lids, and a great many presented ulcers of the cornea, some of which had just penetrated, thus allowing a small portion of the iris to protrude. The granulations upon the conjunctival surface of the upper lid were the largest I ever witnessed, many of them exceeding in magnitude the size of a split pea, and some resembled the protuberance which forms upon the end of the divided muscle after the operation for strabismus; or were like the little fungus nail-headed excrescence, which grows from the conjunctiva of the lid in cases of neglected tarsal tumour, attached by a peduncle, and capable of being removed with facility by means of a curved scissors. In some cases, several of these existed along with the general villous or granular condition of the conjunctiva; they were principally congregated above the external canthus; and to such an extent had they grown, in some instances, as to produce a manifest protrusion of the lid, like that seen in ordinary tarsal tumour. Without their removal, it could not be expected that any permanent improvement could take place. A great number of such cases were treated at the time of my inspection, and such remedies were also employed as I have pointed out in my communication to the physicians, and which are therefore unnecessary to be specified here.

The disease which I witnessed in Tipperary, I believe to be a modified form of that denominated Egyptian Ophthalmia; which I have seen, upon a large scale, at Cairo, and in other parts of the Levant; and which committed such ravages in the British army at the time of, and subsequent to, its occupation of Egypt in 1803. It still exists among our troops; and a number of soldiers, both at home and in the colonies, annually lose their sight from it. It has also lingered in particular regiments for years, notwithstanding every effort made to eradicate it, and such regiments having frequently changed climates. In gonorrhœal Ophthalmia, we see it in its worst form in Europe. It used formerly to spread in public schools, particularly Charter-houses; and it has several times appeared in the country parts of Ireland, and extended among the people not then subject to any particular privation, and apparently in previous good health. So long ago as 1701, an epidemic of this nature broke out near Castletowndelvin, in the county Westmeath, by which vast numbers lost their eye-sight.¹

This Ophthalmia is manifestly contagious, as much so as fever, dysentery, cholera, or any other established contagious or infectious disease,

¹ I became aware of this fact in searching through the papers and manuscripts of Sir Thomas Molyneux, whose Memoirs I published in the *Dublin University Magazine* for 1841-2. "From the effect produced, and the numbers who were attacked together, with the time of year at which its attack was most violent, we have little doubt on our minds that it was some virulent inflammatory epidemic, some form of Ophthalmia, and not improbably that known under the name of Egyptian. The paper to which we refer is a list of 'Queries proposed by Dr. T. Molyneux, to John Hill, curate of Castletowndelvin, in the county of Westmeath, concerning the extraordinary distemper that took away the sight of many in that parish.' The answers to this set of questions form a most interesting statistical document, as the name of each person is given, their age, sex, and the exact effect on the sight, whether total loss of vision of one or both eyes, and the whole number who were affected, etc."—*Dublin University Magazine* for December 1841, vol. xviii, p. 753. I have introduced this extract, because I have not access to the original document at present; and, as it is among the family papers, some time might elapse before I could refer to it.

arising from some peculiar state of the atmosphere acting on those who happen at the time to be good recipients for its seeds. Or it may be propagated by direct contact of the matter or discharge from one person to another; and in this mode it is supposed that the nurses and ward-maids of the Poor-Law establishments contracted it. An impaired state of the constitution; broken down health and spirits; sudden alteration in diet; crowding together, particularly at night-time, in large masses; and the want of pure air and proper exercise, have, I think, materially conduced to spread the epidemic in the Tipperary Union. At the same time it must be remarked, that very many apparently healthy children have contracted the disease, and that, in several instances, it was brought into the workhouse by persons from the neighbouring country parts, who at the moment laboured under the affection. When once this disease takes root in a school, barrack, jail, or workhouse, it is always difficult to eradicate it; and, therefore, it behoved me to make known to the guardians, and the Poor-Law authorities, that, under the most favourable circumstances, and among persons previously healthy, even in the better ranks of life, it requires a great length of time, and the most watchful care, to get rid of its effects. Relapses are always of frequent occurrence in Ophthalmia; and, perhaps, from some cause arising out of the peculiar circumstances of the recent calamitous condition of this country, relapses were one of the most marked characteristics of the late epidemic of fever. If the British soldier, well fed, well clothed, accustomed to cleanliness, under strict discipline, previously in rude health, and supplied, not only with prompt medical assistance, but all the comforts and appliances of a military hospital, suffers for months from protracted Ophthalmia, and occasionally loses his eye-sight, how little need we wonder at the ravages committed by it among the miserable Irish peasant children.

The effects of the Ophthalmia may be gleaned from my letter to the Tipperary physicians; but upon the peculiar condition of the conjunctiva, technically denominated "granular lid", I may remark, that it is one of the most frequent sources of blindness among the lower orders in this kingdom, and is one of the most intractable diseases we have to treat. Whether it arises from the humidity of the climate, or the dirty habits and impoverished condition of the poor, it is not easy to determine; but I think more instances of it are to be found in Ireland than in any other country in Europe. It is also one of the causes of entropion, an affection of which there are more cases in Ireland, in proportion to its population, than can, I think, be found elsewhere.¹

Of the 340 cases which I examined in the Ophthalmic Hospital, at Tipperary, I find, by referring to my notes, made upon the 12th of August, that sixteen persons, ten males, and six females, had irrecoverably lost both eyes, and that in two more they were on the point of being lost; thirty-two persons, twenty-three males, and nine females, had each lost one eye. In thirty-three cases, sixteen males, and seventeen females, one eye had been blemished (generally from dense leucoma, or cicatrix of the cornea, with synechia anterior), so as to impair, but

¹ Out of 512 operations performed at St. Mark's Ophthalmic Hospital during the last three years, 62 were for entropion and trichiasis.

not altogether destroy, vision; and in six cases, three males, and three females, both eyes were in a similar condition;—eighty-seven in all of those submitted to my inspection, where one, or both eyes, had suffered to a greater or less extent. I saw, however, some other cases, in an advanced stage of the disease, where mischief must inevitably have ensued since. Whether these eighty-seven are the entire number of persons, out of the 2068 treated, in whom complete, or partial loss of vision has occurred, I have had no means of judging, as some children had been removed by their parents during the spring; but, if they are, I do not think the number at all remarkable. We all know, that in some instances of violent inflammation of the eyes, even under the most favourable circumstances, it is not possible by art to preserve the integrity of the organ; and twenty cases of total loss of both eyes, or 1 in every 103, is, I think, rather a favourable result. Will medical statistics afford a more favourable? Do 102 cases out of every 103 of inflammation of the lungs, pneumonia or bronchitis; or of peritonitis, etc., etc., recover? Of those persons, where both eyes are, for the present, deprived of sight, but not irrecoverably lost, or disorganized, several may, in process of time, have operations performed with a fair hope of obtaining a moderately useful vision; but this will much depend on the improvement of their general health, and their being removed to a more genial atmosphere.

In addition to the foregoing statistics, the materials for which were collected by myself, the assistant-physician informed me that one hundred and forty-three adults had suffered from Ophthalmia since October 1849; they were chiefly delicate females, and some of the ward-maids and attendants. I have also been informed that, previous to the 29th of October 1849, twelve people, eight males, and four females, were absolutely blind; but they did not come under my inspection.

There prevailed an opinion among the officials, both in Tipperary and at Athlone, that in several cases the Ophthalmia had been induced by malingering; the boys wishing to be freed from school, and to get a better class of food. But, upon strict inquiry, and cross-examining the persons who were said to have first propagated the report, I did not find it borne out by their answers. A few cases of it may have occurred; but it certainly did not prevail to any extent. The means by which the boys in the Athlone Union were accused of propagating the disease—washing the eyes with urine—is, I know, a popular “cure for sore eyes” among the lower order of Irish, particularly in Connaught.

The great bulk of the patients in the Ophthalmic Hospital having contracted the disease in the male and female schools of the union, I next inspected these establishments, and fully reported to the Commissioners thereon; pointing out what I considered defects, and suggesting such improvements as the nature of the buildings admitted. Both the boys' and girls' schools are situated in the uncleanly, ill-sewered, and unhealthy town of Tipperary, which in 1841 contained 7370 inhabitants, and the average proportionate mortality for ten years was, as far as the records of the last census afforded the means of approaching the truth, 1 in 30·8. These establishments had been private residences; the rooms and out-offices belonging to which, together with some additional

buildings recently erected, were converted into schools: but taken as a whole they were, in a sanitary point of view, inapplicable to the purpose. In the boys' school, in Nelson Street, there were 107 children at the time of my visit; but as many as 370 had been located in this establishment shortly before. There was a manifest deficiency of space for exercise-ground for the children. This is an error, not only in a moral but in an economical point of view; for the guardians may rest assured that if a single acre of green-field, properly supplied with a gymnasium, and other suitable means for taking active exercise, were provided in the immediate vicinity of the town (at a cost probably of two or three pounds per annum), wherein the boys and girls of the workhouse schools could play daily, the males at one time, and the females at another, it would save them a large amount of expenditure in hospitals, medicine, and medical attendance. If the children of the rich, in our upper-class schools, require this, how much more do those poor, dispirited, and emaciated creatures, congregated together in masses, and deprived, by their unhappy circumstances, of the sympathy of their natural guardians, demand some such means of healthful recreation. The school hours are from ten to three. Three times a week, when the weather permits, the children are taken out for a walk upon the roads. The food and clothing, supplied to this establishment, were both very good; but neither can supply the want of pure air and active exercise. The chief dormitories were long, thatched apartments, each sixty feet by fifteen, and the walls eight feet high; but the ridge poles of the roofs were sixteen feet from the floor. The ventilation, heretofore provided in these apartments, was, to my mind, totally inadequate; but, shortly before the date of my visit, it had been greatly improved, by means of apertures, made in the side walls, and in the roof. As many as eighty boys have usually slept in each of these apartments; but I was informed that as many as one hundred and twenty-five had slept in a single room of the dimensions I have described. Upon inquiry, the schoolmaster informed me, that "*the Ophthalmia almost invariably attacked the children during the night time, and chiefly those who slept in these very apartments*". In the front house in Nelson Street, which was originally a private dwelling, and in which the apartments were consequently smaller, and much better constructed, with respect to warmth and ventilation, than those I have just described, I was informed that, "there had been but few cases of Ophthalmia". From the 15th of May to the 15th of August, one hundred and ten boys were seized with the epidemic in this school, and removed to the Ophthalmic Hospital.

The means provided for the boys to wash themselves were, it appeared to me, quite inadequate, not merely for cleanliness, but for the maintenance of health; but, as far as I have had an opportunity of judging, the appliances for ablution in the Irish workhouses generally are defective. I need scarcely wonder at the guardians and inspectors permitting the peasant boys in the Irish Auxiliary Workhouses to wash at a pump or with a bucket in the open air in all weathers, when I remember what was the condition of things not many years ago, at one of the largest schools for the gentry in this country—one too on "Royal Foundation". There were no means for washing provided in the large dwelling-house wherein the boys slept; but half-dressed, they scampered every morn-

ing, winter and summer, across an open court or play ground, to an out office, which had recently been a stable, and the floor of which was still paved. There, from fifty to sixty young gentlemen rushed at a large trough, like a manger, in which there were eight or ten basins, and struggled for a wash, and afterwards for the first, or at least a moderately dry wipe with about as many towels. In the Athlone Auxiliary Workhouse, matters were in a still worse condition in this respect, 354 girls and 88 little boys being submitted to the process of ablution, or more properly speaking, of *wetting*, upon an exposed and elevated part of the yard, each morning, on their way from the breakfast-room to the school-room. Every medical practitioner, every mother, every old woman, knows full well what the effects of such sudden chills are in producing inflammations. The children in our workhouse schools are, I believe, very well taught the national system of education, and it is highly gratifying to witness the order, discipline, and regularity which prevails there; but if, besides the marching and counter-marching which they are drilled into (all most necessary I admit), habits of cleanliness and comfort in the matter of ablution were also instilled into these children, would it not forward the process of civilisation in Ireland?

The girls' schools at Bank Place, also in the town of Tipperary, and then the chief source of the epidemic, I inspected and reported on; but in the previous statement and observations, will be found the substance of my report, so far as concerns the objects of this communication, or as the medical profession need be acquainted with. At Grenane, about a mile from the town, there is another girls' school, containing, at the time of my visit, 331 girls, clean, healthy, and in good spirits. There was a plentiful supply of water, the night-soil cart was removed daily, the dormitories, school-rooms, and the entire establishment, were in the highest order. Originally, when the disease first appeared, many cases of Ophthalmia were sent to hospital from this school, but latterly, it had almost disappeared there. The mistress stated, that the disease chiefly attacked the recently admitted children, but that, in several instances, the new comers presented symptoms of the affection on their admission.

The following is the letter which I addressed to the medical attendants of the Tipperary Workhouse, upon the 16th of August.

"GENTLEMEN,—Pending the presentation of my Report to the Poor-Law Commissioners, respecting the cases of Ophthalmia which I examined upon Monday last, the 12th instant, in the Auxiliary Workhouses of Tipperary, I beg leave to put you in possession of my views on the treatment which I think it would now be most advisable to adopt.

"Upon the first seizure, if the previous general health of the patient is such as might warrant it, I would strongly recommend slight local depletion, by means of a leech or two applied over the edge of the malar bone, immediately beneath the external angle of the eye, and repeated next day, if the strength of the patient permit it, or if the inflammatory action continue unabated. This refers to young children, the most frequent subjects of the disease. The number of leeches must be regulated by the age and strength of the patient. In adults, cupping the temple and drawing therefrom three or four ounces of blood, will, I think, be

found beneficial in mitigating the severity of the original symptoms. Where there is much swelling of the lids, cold applications are generally found most grateful. I highly approve of your judicious use of the nitrate of silver; but I would suggest the propriety of keeping a solution of that medicine in a separate vessel in each ward, and having it so managed as to exclude as much light as possible; for the dark precipitate thrown down by decomposition, gives, when applied to the eye, unnecessary pain, and it is far from beneficial. I see no objection to your employing a solution of this medicine as strong as six or eight grains to the ounce, in the very early stage, when the conjunctivæ of the lids becomes villous and pulpy, and pours out in great quantity a thin mucopurulent discharge, and when that covering the globe is raised up into a serous chemosis. But as soon as ever the symptoms of intense inflammation subside, I would lessen the strength to about three grains, or even one grain to the ounce. In cases, however, where you think it advisable to employ the weak solution, it ought, I conceive, to be used more frequently, say three times in the twenty-four hours. The nurses should be taught how to apply this remedy.¹

"With the exception of some mild aperient, given at the commencement of the attack, in those cases where the tongue is white, or loaded, I do not think that much benefit is to be derived from purging the class of patients you have to deal with; neither do I see much good likely to accrue from lowering them by means of tartar emetic, the patients which will bear such being evidently the exceptions. If a warm bath can be easily obtained, I think good will ensue from its use; and, in the treatment of the subsequent chronic stage, I am sure you will find it very desirable; but it must be properly managed to be effectual.

"As soon as local depletion has been had recourse to, the bowels freed, the bath used, and the solution of nitrate of silver dropped into the eye, I should strongly advise you to administer cinchona bark, and give it liberally, particularly during the subacute stage.² The decoction, with a little of the syrup, will, I think, be the most easily obtained preparation, and the most applicable to a large institution.

"As far as the patients are willing to take it, I would recommend

¹ Wherever in this Report recommendations are made, or suggestions offered, upon subjects of apparently trivial import, it is because some good reason for my doing so presented itself at the moment. It must be remembered, that the nurses and ward-maids of an Auxiliary Workhouse Hospital are themselves pauper inmates, generally very ignorant, and totally unacquainted with those matters familiar to the usual nurses of general hospitals.

² It has been asserted, with what degree of propriety the profession are to judge; that as inflammation of the conjunctiva, commonly called purulent Ophthalmia, in its simple and uncomplicated form, proceeds through its different stages to perfect recovery, unaided by any medical interference, we should refrain resolutely from any officious meddling with the disease, etc. How far this line of practice is applicable to inflammations in other organs in their mild uncomplicated form,—simple inflammation of the mucous membrane of the lungs, throat, bowels, or the genito-urinary organs, for instance,—those who are extensively engaged in practice are alone capable of forming an opinion. Every one who visits the continental hospitals has an opportunity of judging of the positive results of the *expectant treatment* in inflammatory diseases. Not long since, the profession witnessed the decay of a periodical wherein such doctrines were broached; and their promulgation now only proves that some persons have outlived all faith either in medicine or themselves.

plenty of nutritious food, good wholesome bread and milk, or stirabout and milk, as well as some broth containing fresh vegetables, during the day. In the treatment of these cases now in hospital, as well as in the regulation of the dietery of the schools where the disease has been acquired, I would suggest to you the propriety of varying the description of food from time to time. Properly cooked potatoes, instead of the usual meal of brown bread, would, I am sure, be considered a luxury, and tend to keep the children in good health. Although the patients in the Ophthalmic Hospital may, from its sweetness, prefer tea to milk, I would not recommend you to accede to their wishes generally, but I think the use of cocoa, made of a proper strength, and given with an equal proportion of warm milk, and some sugar, would be both palatable and nutritious.

"From what I saw of the disease, and from the account which you have given me, it is manifest that it is, in the first instance, amenable to treatment; few cases having occurred in which the cornea sloughed, or the eye burst, through the violence of the primary attack. The great majority of cases in which permanent or irreparable mischief has occurred, seem to be those in which the cornea ulcerated, and the iris protruded, subsequently to the original attack, producing either staphyloma, or extensive leucoma, with adhesion of the iris to the cornea. The treatment of such ulceration will, no doubt, greatly depend on the appearances presented in each individual case; but, as such affections are nearly always induced by some constitutional derangement, such other means of strengthening the system as circumstances will permit, must also be employed. Where the patient is much broken down, and the disease is in a chronic stage, I beg to suggest the plentiful use of cod-liver oil, of which medicine a large supply should be at once procured, and a table-spoonful given to each child two or three times a day. I saw, I am sure, fifty cases, among those under your care, which would be greatly benefited by the use of this remedy. It is most applicable to those cases in which there is much emaciation, paleness, a cold clammy skin, and large flabby granulations, and sometimes transparent ulcers of the cornea.

"As the great tendency of this disease is to cause exuberant growth of the conjunctiva, presenting various kinds of granulations, which form the sequelæ of the affection, I would advise you in every instance, as soon as the swelling of the upper lid has subsided, and the more urgent symptoms have passed away, to evert the lid in order to examine the state of its conjunctival lining, and to apply the solution of nitrate of silver directly to that part, and then, by keeping the lid thus retained for a few seconds, until the caustic has acted upon the swollen villous surface of the membrane, granulations may be prevented from forming.¹

¹ To evert the upper eyelids, in order carefully to examine the diseased conjunctiva, and to apply suitable remedies, in some hundred cases once a day, or even every second day, in addition to the ordinary attendance necessary upon a large workhouse, requires an amount of time which few medical men could give, or the Board of Guardians would be willing to pay for. Still it was my duty to point out what I conceived to be necessary; but, at the same time, I recommended the Poor-law Commissioners to advise the guardians to furnish additional medical attendance.

“ With respect to the local treatment of the ulcers,—several of which were transparent, as if a piece had been chipped out of the cornea,—I would recommend you to touch them with a solution of nitrate of silver, of the strength of about four grains to the ounce, applied with a fine camel-hair pencil. These ulcers seem to me to penetrate the cornea from want of power, in the neighbouring parts and the constitution generally, to repair the mischief, few, if any of them, presenting the usual vascular connexion with the adjoining conjunctiva and sclerotic, which is commonly set up to restore the breach. I saw several instances in which the cornea had just been ruptured, and a small portion of the iris protruded. These cases, if allowed to proceed unchecked, will inevitably go on from bad to worse. The aperture in the cornea enlarges, and a considerable portion of the iris protrudes, and the final result is either partial or complete staphyloma, or an extensive leucoma, the whole or a large portion of the pupil becoming attached to the cicatrix. In such cases, I would recommend that, as soon as you perceive that the ulcer has penetrated, you should touch the knuckle of protruding iris with a very fine brush, wet with a weak solution of nitrate of silver, and immediately afterwards drop into the eye a solution of atropine, of the strength of two grains to one drachm of distilled water.¹ The eyelids should then be fastened down with narrow strips of adhesive plaster, and a piece of fine lint plentifully smeared with a moistened extract of belladonna should be applied over the eye, and retained in this position by a light bandage. From the crowds at present in your hospital, and the liability of cases so circumstanced meeting with any accident, I would recommend to have them confined to bed. The eye should not be opened for the next four days; but, as the lint becomes soiled and stiff with the discharge, it may be changed as often as necessary, and fresh belladonna applied round the orbit.

“ In cases where ectropeon of the upper lid has taken place during the violence of the original inflammation, great care should be taken to restore the lid to its natural position, as it sometimes remains in a most distressing condition for weeks, and even months, of which, at present, you have some examples in the hospital.

“ The foregoing observations refer to the more active forms of the

¹ The treatment recommended above I published in my Ophthalmic Report for 1848 (see *Dublin Quarterly Journal*, vol. v, p. 489). Since then, I have had many opportunities of testing its value; and the pupils in attendance at the Ophthalmic Hospital have frequently witnessed its efficiency during the last few months. To state that belladonna or its alkaloid will not cause a knuckle of iris protruding through a recently opened ulcer or rent in the cornea to retract, and the pupil to expand, exhibits a want of practical knowledge of ophthalmic surgery. It is to be regretted, I think, that atropine, one of the most powerful salts, and one of the most efficacious remedies with which we are now acquainted,—far more cleanly and much more certain than belladonna,—has been omitted in the recently published *Dublin Pharmacopœia*. Since I first brought the use of this remedy under the special notice of the profession in this country, I have found that, in some cases, a single drop of a solution of the strength of two grains to a drachm, consequently about the thirtieth part of a grain of atropine, will, if dropped upon the conjunctiva of the lower lid, be perceived, by its bitter taste in the mouth, in a quarter or half-an-hour after its application. Where it has been necessary to use this remedy for some length of time, as in cases of contracted pupil, or central cataract, etc., an unpleasant dryness of the fauces is experienced, in addition to the usual bitter taste. Isinglass plaster, made on firm sarcenet, is preferable to the common sticking-plaster for fastening down the eyelids.

disease. I have now to give you my opinion of the chronic cases, which form the great majority of those submitted to my inspection. In the observations which it is my duty to make, and the recommendations which I suggest for the removal of those errors which it appears to me have been committed, and still exist in the general management of your ophthalmic hospital, I beg to state that I am well aware that it is not within your power to rectify them. Their removal I will strongly impress on the Commissioners, but, at the same time, it is proper you should always bear them in your recollection. The wards of the hospital are much too low, and far too many patients are crowded into them. The ventilation is both irregular and inadequate. The clothing of a great number of the children is insufficient. During the approaching cold weather, some means for heating the wards must be procured, and the unglazed windows must, in inclement weather, be properly secured. Cleanliness is not sufficiently attended to; three sponges are not enough for a ward containing nearly one hundred patients; there should be at least a dozen sponges, and the elder children should be shown how to use them themselves, and compelled to do so several times a day.¹ For the recent cases, where the discharge is believed to be infectious, I would recommended the use of small portions of tow instead of sponges, as a fresh supply of the former could be had daily at a very small expense. I do not think three night buckets sufficient for the number of patients in each ward; there ought to be at least five or six. The removal of excrementitious matter, and the cleanliness of the privy, has not been sufficiently attended to; you should insist on having the ordure cart removed daily. At the time of my inspection, the bedding, particularly the sheets, were not so clean, and consequently not so healthy, as you are aware they ought to be.

"I will strongly urge upon the Commissioners the necessity of immediately procuring some country place to which the ophthalmic patients may be removed, and where they will have a constant supply of fresh air, and be able to take open air exercise (if possible, in a green field, instead of a confined yard); without which means, neither medicine nor any effort on your part will prove available in a great number of cases.

"I would suggest the advantage, both to yourselves and the patients under your care, of making some classification of them according to the severity of their symptoms, and thus prepare the way for lessening the number of children in the establishment. I saw several patients with slightly granular lids and some mucous discharge from the eyes, but without any active inflammation of the conjunctiva of the globe or any intolerance of light, who might at once be removed, if a proper place were provided for them. As the disease is not likely to be infectious in that state, they might be sent to the parent workhouse or back to school, provided they were not confined, nor employed in learning five or six hours a day, which I find is the time the children have been occupied in the schools where the disease was originally contracted. In treating those mild forms of chronic Ophthalmia, I think you will find it bene-

¹ I think we are in the habit of allowing patients with inflammatory affections of the eyes to *slop* too much, either by steeping, or keeping on a wet rag for hours together. I am convinced that much greater benefit will be derived by fomenting the eye properly, or applying a cold lotion by means of a fold or two of fine linen for a quarter of an hour at a time, and then carefully drying the part.

ficial to use the wine of opium made without aromatics, and mixed with an equal quantity of laurel water, dropped into the eyes once a day.¹

"Chronic Ophthalmia, kept up by a granular condition of the conjunctiva of the lids, chiefly the upper, is now what you have principally to treat. By making the following classification, and by getting a registry constructed in accordance with it, you will, I think, be able to get through your work more easily. If, moreover, each class could be kept in separate wards, it would, I think, hasten their cure. Until another house is provided, the present large wards might be divided by temporary partitions.

"CLASS I. All the recent cases, before they have passed into the chronic form. They should, if possible, be at the top of the house.²

"CLASS II. The totally and irrecoverably blind. These had better, I think, be separated from the rest of the patients.

"CLASS III. All those with ulcers of the cornea, protrusions of the iris, or staphyloma not producing blindness. In recent cases of staphyloma of the cornea projecting through the lids, and causing much irritation, I would recommend you to tap the protruding part with a flat needle every now and then, so as to lessen its bulk and remove the pressure made by the contained fluid. A light pad, made to exercise some degree of pressure on the eye, while this mode of treatment is being adopted, I have known to prove beneficial. In all cases of recent adhesion between the cornea and iris, I would recommend the continued dilatation of the pupil by means of atropine or belladonna. In cases where complete closure of the pupil exists, but in whom the operation of artificial pupil may hereafter be resorted to with some hope of success, equal care, both to improve the general health and to remove any disease existing in the eyelids, should be taken as in those already described.

"The first and third classes should be visited daily, the second but every third day.

"CLASS IV. With small hard granulations, generally distinct and separate. These I would recommend to be touched in the manner I pointed out to you every second day, with sulphate of copper; they need not be examined upon the intermediate days. The constitutional treatment, by means of bark or cod-liver oil, should be employed in several of these. Where there is much intolerance of light, irritation of the membrane of the external nares, and swelling of the upper lip, with other strumous manifestations, I would recommend you to use, in connexion with the bark, very minute doses of the oxymuriate of mercury, say the sixteenth to the eighth of a grain. Such cases will also be benefited by the application of a blister to the vertex; but blistering, in the generality of cases, such as those I witnessed in your ophthalmic hospital, will not, in my opinion, prove beneficial. I do not think the usual bitter infusions, or even hydriodate of potash, improve such cases, or indeed many cases of ophthalmia in young persons; but some benefit may be derived from the use of the syrup of iodide of iron, particularly in very young children.

¹ The removal of the hot spices from the wine of opium is, I find from long experience, a great improvement, when this tincture is used as a collyrium. This formula has, I am glad to find, been adopted by the compilers of our new National Pharmacopœia.

² The treatment of these recent cases has been described in the commencement of this letter.

"CLASS V. With large distinct granulations, such as those you saw me remove, and which principally congregate at the sulcus, formed by the reflection of the conjunctiva from the upper lid to the globe. These cases should be seen and their lids everted daily, and as many of the granulations as possible cut off with a curved scissors. The inner surface of the lids may occasionally be scarified slightly, and the bleeding, which will prove rather beneficial, should be encouraged by fomentation with warm water. Besides the removal of these large granulations, some local astringent should now and then be employed as the granulations disappear, such as the sulphate of copper, solution of nitrate of silver, or the acetate of lead, which latter I shall presently allude to. The constitutional treatment of such cases is even more necessary than in the foregoing class. From week to week, cases of this and the 4th and 6th classes may be removed into the 7th class, which will not require such constant attendance.

"CLASS VI. Are those in which the conjunctiva presents an uniform granular condition, the surface of the granulations, however, being tolerably smooth, although they may be separated by passing a probe between large packets of them. They are generally less florid than in the preceding class, and the patients are always run down in health. They will require an energetic constitutional treatment, with as much animal food as the dietary of the institution will permit. Ulceration of the cornea exists in a great number of these cases, presenting the appearance of an abrasion of its surface without any surrounding greyness. The local treatment which I think you will find most beneficial in these cases, is to unload the deeply congested purple granulations by very light scarifications, and, in a day or so afterwards, to apply finely levigated acetate of lead. For this purpose the lids should be everted, their internal surface gently dried, and the lead applied either with the top of the finger, or a camel's-hair pencil, so as to completely cover over the exposed surface. The lid should be still held firmly everted for at least a minute, during which time the lead will have dissolved, and the granulations will have changed colour very considerably, assuming the hue of an unripe mulberry. The parts should then be washed free of the application with a little clean water, either by means of a syringe, or a sponge. It will not be necessary to examine these lids again for three days. As there is an opinion that lead is deposited, and leaves a permanent stain, where there is any breach of surface in the cornea, perhaps it would be as well to confine this application to the cases where ulceration does not exist, using the solution of nitrate of silver, applied after the same manner in those where ulceration is present. After one or two applications, the lead will form a sort of enamel, of a whitish colour, and of great smoothness, over the surface of the lid. As long as this is present, it should not be interfered with, nor the remedy re-applied, except to such spots as it has not taken effect upon.¹

¹ This mode of applying finely powdered acetate of lead to the hypertrophied villi of the palpebral mucous membrane has been highly recommended by Dr. Buys, a Belgian military surgeon and the results of his observations have been published at length in Dr. Cunier's excellent journal, the *Annales d'Oculistique*. A form of Ophthalmia, very similar to that now prevailing in the Irish workhouses, has recently spread among the troops in Belgium, and also extended through the public institutions, and among the lower orders in that country; on which several valuable reports have been published in the periodical alluded to. The action of powdered

"CLASS VII. Are those with simple uncomplicated chronic Ophthalmia.

"I would, as soon as proper accommodation and other means are supplied by the Poor Law guardians, or the Commissioners, completely separate all those who are totally and irrecoverably blind from the rest of the patients. As soon, also, as possible, some description of amusement should be procured for the children, who should be kept upon fine days as much as possible in the open air, or in a large airy day-ward in wet weather. Fortunately, there being so little intolerance of light in the great majority of the cases your hospital presents, the children will always be able to do this. I have been very much struck with the circumstance of there being so little development of scrofula in the children affected with the present epidemic Ophthalmia in Tipperary; only two or three instances of enlargement of the glands of the neck presenting in 350 patients; a fact of some interest, as tending to show the purely epidemic nature of the disease, and to distinguish it, even in the chronic form, from that generally denominated Scrofulous Ophthalmia. It also appeared to me remarkable that only one or two instances of Pannus, or vascular cornea, such as that which so frequently occurs as the consequence of Ophthalmia in the army, were to be seen in the vast number of cases under your care, and in several of which sufficient time had elapsed to permit of the formation of such appearance. This circumstance, I think, tends to show the asthenic nature of the disease you have had to treat, and the broken-down class of subjects in which it has appeared. Extreme coldness of the end of the nose is a symptom which I have long observed to be attendant on chronic Ophthalmia with granular lids, in debilitated patients, and it was to be observed very frequently among the children in your Ophthalmic Hospital.¹ To such cases the cod-liver oil is peculiarly applicable. The total absence of all other ophthalmic diseases, except the purulent Ophthalmia, and its consequences, was most remarkable; and the circumstance is fortunate, as, had the internal structures of the eye partaken in the inflammatory action, the disease would have been less under control, and the usual remedies, mercury in particular, inapplicable to the class of patients you have had to deal with. Of pustular Ophthalmia, so common at present among children and young persons, I did not see a single instance either in the hospital, or among the numerous pupils, males and females, whom I saw in the schools.

acetate of lead is not the same as that of the liquor plumbi, even in the undiluted state. Even though it were, the mode of applying it would produce a different result. Every one engaged in Ophthalmic practice knows full well that any fluid caustic, or astringent, simply dropped into the eye with the palpebræ, generally at the moment spasmodically contracted, exercises but little influence on the inner surface of the upper lid. To prove effectual, the substance, fluid or solid, must be applied to the membrane itself.

¹ Coldness of the extremity of the nose is an attendant symptom of chronic Ophthalmia; just as much as congestion of it is characteristic of affections of the choroid or the internal structures of the eye; or swelling, redness, and an eczematous eruption, of the external nares, the septum, and the upper lip, is a constant attendant on certain forms of scrofulous Ophthalmia. To deny such, exhibits either defective vision, or undeveloped powers of observation.

In several cases at Tipperary, enlargement of the pre-auricular gland—*Bubon pre-Auriculaire*, first noticed by Dr. Hairion, of Louvain, as an attendant symptom in gonorrhoeal Ophthalmia, was observed. But, as we already stated elsewhere, it is common to other forms of ophthalmic inflammation besides the specific.

"As the yard of the present establishment is so confined, I would strongly suggest the propriety of sending forty or fifty patients, under the superintendence of a proper care-taker, to a little distance into the country every day. Two hours of freedom in some of the neighbouring green-fields daily would be of great benefit to the poor children cooped up within the narrow limits of the hospital, and would be an eventual saving to the guardians and rate-payers in the items of medicine, medical attendance, hospitals, and the subsequent permanent support of a number of blind people. There are several patients in your hospital whose sight might be saved if they were completely removed from the establishment, and placed under the care of their friends in the country. But this is a matter on which I do not possess sufficient information to be able to suggest any decided step. If, upon the breaking up of your present establishment, and the removal of the patients to a more healthy locality, you could by any means get rid of the fleas which swarm in the beds, and literally cover the sheets with minute specks of blood, it would, I think, tend to improve the health, and minister to the comforts of the miserable patients you have to treat.

"As it will be necessary to examine each individual case of the 350 now under treatment, to evert the eyelids and apply the necessary remedies, as well as prescribe medicine, and regulate the dietary, once in three days at least, and in some cases daily, I will recommend the Commissioners to afford you additional medical assistance as soon as possible. Until, however, some more healthy locality, with sufficient ground for enabling the children to take exercise, is supplied, I do not think any general improvement will take place in those under your care."

Dublin, 16th August, 1850.

OPHTHALMIA IN THE ATHLONE UNION.

In accordance with the directions of the Poor-Law Commissioners, I proceeded to Athlone upon the 23rd of August, and, in company with the physician and the master of the workhouse, I visited the different localities where I was informed that patients labouring under Ophthalmia existed; and also carefully inspected the schools, where the disease is said to have originated. As the remarks, which I thought it my duty to make upon this disease, its apparent cause, and its treatment in the Tipperary Union, were equally applicable to the circumstances of the Athlone Workhouse, I did not consider it necessary to extend my report upon the latter to the same length as the former, but contented myself with pointing out what I considered the most striking defects in each section of the auxiliary workhouses; and I also "suggested to the Commissioners the expediency of furnishing copies to the officials at Athlone, both of my letter to the medical attendants of the Tipperary Union, and also of my general report" thereon. I pointed out, in as strong terms as language at the moment supplied me with, what I considered to be manifest defects in the warmth, ventilation, cleanliness, mode of washing, and the general accommodation of the several establishments through which I was conducted. It appears, from the public prints, that the Board of Guardians at Athlone have been put in possession of my opinions and suggestions; to what extent they have availed themselves of these I know not, and, except for the sake of humanity and the credit of my countrymen, it concerns me not to inquire.

At the time of my visit, the disease or its effects were to be observed

in the girls' school, in a temporary hospital, in the boys' school, and in the Infirmary, and the Fever Hospital, these latter being within the precincts of the parent workhouse. The first of these establishments, denominated No. 1 Auxiliary Workhouse, had formerly been a private residence; it contained 354 females under fifteen years of age, and 38 males under five, who were in an infant school attached thereto. Upon inspection, I found that numbers of the children here laboured under the Ophthalmia in a chronic stage; some, the very young children particularly, were just as severely affected as those in the hospital at Tipperary, the same peculiar effects exhibiting themselves, in exuberant growths of the lining membrane of the lids, etc.; but ulceration was not so common. Upon these effects and the best method of treating them, I consulted with the medical attendant, Dr. O'Connell, who accompanied me in my visit. The matron of the establishment had been supplied with a bottle containing a solution of lunar caustic, and she seemed to have been well instructed in the method of applying it; but I believe it will be conceded, that, in order to arrest the progress of this disease, and to counteract its effects in a chronic stage, it is absolutely necessary that a medical inspection of a great number of the children of this or any other school, when it prevails, should be made every five or six days at least, and their eyelids everted, in order carefully to examine the state of the conjunctiva, and to employ such remedies as may be deemed advisable at the time. Those labouring under severe chronic Ophthalmia with granular lids, I recommended to be separated from the others. Several of the cases here seemed to me to require active constitutional treatment, in order to correct the tendency to relapse, and to assist in eradicating the disease from the establishment.

Generally speaking, the girls in the Athlone School appeared to be much more healthy than those either in the school at Bank Place, or the Ophthalmic Hospital of Tipperary. Moreover, very many of them were of a somewhat different race, having dark eyes and complexions, and consequently presenting fewer instances of the deleterious effects of ocular disease.

All forms of external Ophthalmia seem to affect light-haired people with blue or grey eyes and delicate skin, and particularly those with what are termed sandy complexions, more than those with dark complexions and brown or hazel eyes; and such diseases likewise produce, in the former, more violent symptoms. Of 1659 cases of external inflammation, including conjunctivitis in different forms, pustular, catarrhous, strumous, and purulent Ophthalmia, etc., registered at St. Mark's Hospital during the last three years, and in which the colours of the irides were accurately noted, 1155 were light-coloured, grey or blue; and 504 brown or hazel; being in the proportion of about 9 to 4. It must, however, be borne in mind, that light-coloured eyes, the blue-grey in particular, predominate in this country. The most marked difference occurred in the cases of pustular Ophthalmia, where there were 272 light, and 152 dark coloured; and in strumous Ophthalmia, generally marked by intolerance of light, etc., there were 267 light-coloured, and only 107 brown or hazel eyes.¹

Forty-nine children in this school had, at the time I visited it,

¹ See Fourth Report of the St. Mark's Ophthalmic Hospital and Dispensary for Diseases of the Eye and Ear. Dublin: Alex. Thom. 1850.

suffered severely from the effects of the Ophthalmia, but in only two instances had both eyes been irrecoverably lost; two more had both eyes seriously injured, but in these latter, vision may in time be restored by operation; twenty had each lost one eye; twenty-three had each one eye seriously injured; and two had slight opacity of the cornea. In passing, however, through the school, I observed very many children with chronic Ophthalmia and a villous or granular state of the lids. It would appear that the disease had been, in the first instance, even more violent than in Tipperary; but, perhaps from the difference of race, the better state of the general constitution of the children, and the more healthful situation of the school, the subsequent consequences—chiefly intractable ulceration, kept up by an impoverished state of the constitution—were not to be observed in No. 1 Auxiliary Workhouse in Athlone: but then it must be observed, that some of the worst cases had been removed to the infirmary of the parent workhouse. The epidemic appeared to be on the decline, only two cases having occurred there during the three days previous to my visit. I understand that the disease broke out among the paupers in the Athlone Union, in April 1848, instances being at the same time observed in the surrounding country parts, and in the town of Athlone; and that 470 cases of it had been treated in the Workhouse during the twelve months previous to last August.

Having pointed out, in my Report to the Commissioners, the defects of the various establishments at Athlone in which the disease had sprung up, or then existed, both in the dormitories and dining-rooms, and remarked upon the general management of these institutions, it is unnecessary for the purpose intended, here to recapitulate them: but, as some notice of the following circumstance has already appeared in the newspapers, I here transcribe from my notes what occurred, in the hope that the like neglect may never again be permitted. Upon inquiry as to the mode of washing the children, I was informed that the process was then going forward. Furnished with an umbrella, for it was raining at the time, I proceeded to the spot, and found two of the adult female paupers, each with a bucket of water before her, standing upon one of the highest and most exposed portions of the yard, and which commanded an extensive view of the adjoining river Shannon, and the damp, swampy ground beyond and around it. The children, according as they breakfasted, crept along an adjoining wall for shelter on their way to the school-room, which was at a considerable distance; and as each child came up, one of the washerwomen laid hold of it, pulled down its dress in front and behind, and bending it over the bucket, threw some of the cold water with her hand upon the face, neck, breast, and shoulders of the little girl, and then gave her a scrub with the open hand. Sometimes the child escaped before the process was completed, and ran off with the water trickling from its hair and down its neck; in other instances, the children were dried with their own dresses. There were no towels there; and, upon inquiry, I found that but two had been supplied by the guardians for the entire establishment. The matron and the schoolmistress, who were present, and who were exceedingly intelligent, pains-taking persons, and apparently very humane, and anxious about the children, seemed quite unconscious of the deleterious effects likely to ensue from this mode of ablution and exposure of the body in the open air. I pointed out to the physician who accompanied me, the

great likelihood of such a chill producing Ophthalmia in weakly children already predisposed to it, and in an institution where it was manifestly an epidemic. The children should be washed and properly dried in some unexposed apartment, or their dormitories, immediately upon their rising in the morning, and not after breakfast.

No. 2 Auxiliary Workhouse, now used as an additional infirmary, was originally a malt-house, and is situated in a confined, damp situation, bordering the river, probably in order to facilitate the germination and fermenting process of the corn. From the construction of the building, its low vaults, narrow passages, and very scanty rooms, I conceived it to be totally incompatible with the maintenance of health in any persons confined within it. It was, moreover, in some parts exceedingly uncleanly. I suppose we must attribute to apathy and indifference,—consequent upon familiarization to scenes of misery and destitution—the circumstance that the guardians and the inhabitants of Athlone generally suffered such an establishment as this to exist. The patients in this hospital were chiefly cases of dysentery and Ophthalmia. Of the latter, there were fourteen; and of these, eleven boys, aged from 8 to 13, presenting the worst cases which I witnessed any where, miserable-looking creatures, squalid and ragged, slept on boards laid directly on a damp floor in a sort of cellar or dormitory 33 feet long, 10 broad, and 7 high, with unglazed windows facing a yard surrounded by high walls, and only 25 feet square. This inclosure was the exercise-ground for these and about twelve other boys located in the same establishment! These are defects in an institution intended for the improvement of health which, it seems to me, a medical man sent to inspect, is imperatively called on, both in justice to the inmates and to the authorities, fully to describe. Of the eleven boys in this apartment, three had lost both eyes, three had lost one eye each, and the remainder had one or both seriously injured. In such cases, medicine can be of no avail; I therefore strongly recommended that they should be removed to a more healthy locality, and that all the boys in this establishment—numbering about thirty-three—should at once be sent to some auxiliary house in the country, or as many as possible taken into the infirmary of the workhouse. In making a selection for this purpose, the curable cases alone should be removed, as it would be unfair to occupy a bed with an irrecoverably blind patient to the exclusion of one who had still an eye to lose.

I visited the boys' school at the Workhouse, and was informed that no fresh case of Ophthalmia had occurred among the children there for three weeks; several, however, had slight chronic Ophthalmia, and of seventeen whom I had subtracted from the rest as having suffered from the recent epidemic, two had lost both eyes, and seven, one each. The remainder had impaired vision in one or both; but it was stated that some of the children with blemished eyes, both here and at the girls' schools, had had Ophthalmia at their own homes, and had been received with blemished eyes. These boys did not look as healthy as the girls I have just described, and this school presented a much greater proportion of the fair complexioned. The clothing was insufficient; but the sleeping apartments of these children were clean, comfortable, airy, and in the highest order, which will, I think, account for the comparatively few cases of Ophthalmia which have occurred in this school.

In the Fever Hospital, there were several suffering from Ophthalmia in all its stages. Of twelve girls, two had irrecoverably impaired vision of the right eye; four boys had each lost one eye, and two others had extensive leucoma of one eye. Two adults had each lost both eyes. In the infirmary, there were twenty-one cases of Ophthalmia more or less severe; three of these had each lost one eye.

The epidemic seemed upon the decrease. There was but one recent case of severe purulent Ophthalmia at the time of my visit. Upon examination, the inside of the upper lid was found to be covered with an adventitious membrane of recently organized lymph, such as that which other mucous surfaces pour out in the early stage of excessive inflammation—in croup and diphtheritis particularly, and probably in dysentery also. In cases of suppuration of the eyeball, I have seen it formed over the entire surface of the chemosed conjunctiva in the space of twelve or fourteen hours, and so firm and extensive as to permit of its being taken off *en masse* with a forceps. The existence of this pseudo-membrane, particularly in the Ophthalmia of new-born infants, was pointed out some years ago by M. Chassaignac. A similar appearance has been observed in other epidemics of Ophthalmia in different parts of Europe and in Egypt, and it was very manifest in the severe Ophthalmia which recently prevailed in Belgium. I think it should be removed as soon as possible with a camel's hair pencil, and the surface then washed over with a strong solution of nitrate of silver, a practice which proves so beneficial in certain inflammations of the pharynx.

The physician agreed with me in the propriety of the treatment which I recommended, and which was nearly the same as that pointed out in my letter to the medical officers of Tipperary; viz., slight local depletion in such cases as would bear it, the use of astringents, attention to the state of the digestive organs, and then supporting the strength and improving the general health by nutritious diet, pure air, and the liberal use of tonics, particularly bark and cod-liver oil. According to my experience, a couple of leeches, applied in the neighbourhood of the affected eye in a child, is not only much more effectual in arresting the progress of the inflammation, but also much less exhausting to the patient's general strength, than a large blister placed upon the nape of the neck or between the shoulders. When blisters are applied behind the ears, or in the immediate vicinity of the affected organ, as on the side of the cheek or the temple, they cause, in young children particularly, great irritation and restlessness, and often give rise to eruptions on the face, difficult to cure. It must, however, be remarked, that where leeching is to be used in many cases, it will require a larger staff of attendants than is generally allowed for Poor-Law Hospitals. The system of purgation is too liberal in many of our public institutions. In catarrhal or muco-purulent Ophthalmia in children in this country, the tongue is, upon the first accession of the disease, generally coated with a thick, putty-coloured exudation, through which the bright red papillæ stand up prominently; and the better state of health the child has been in previously, the more marked is this symptom. Hence, the well-fed children of the middle classes more frequently present it than those of the poor. In such cases, the digestive organs demand special attention. But we frequently meet cases among the lower orders where the tongue is quite clean from the very first, nay, is

often unusually florid, and these will not be benefited by purgation. In relapses, even among the most robust children, the tongue is seldom so foul as in the original attack. Where the Ophthalmia has suddenly—as in the course of a few hours—seized a person, the tongue is seldom much loaded. In Tipperary and at Athlone, the prevailing character of the tongue in those sub-acute and chronic cases which I inspected was either pale red, or like the surface of a piece of macerated liver.

Before I conclude this report upon the Ophthalmia in Athlone, I beg leave to append the following account of a similar epidemic which prevailed in the 31st Regiment, while stationed in that garrison, for which I am indebted to my friend Dr. Massy, the Assistant-surgeon of that corps. “The regiment suffered slightly from Ophthalmia at Manchester, and also after its arrival in Dublin, where we left all our cases of Ophthalmia. We reached Athlone in July 1848, but we had also several men in the ranks with tender eyes, and these I always thought it would have been well to have separated from the rest. At head quarters we had 730 men; and two detachments, one of 90, at Roscommon, and the other, of 50, at Lanesborough. Soon after reaching Athlone, Ophthalmia became very prevalent among the troops, and we had generally forty cases in hospital at a time. All through the winter its spread was very gradual; and as an idea was entertained that its existence was attributable to the men themselves, it is possible that sufficiently energetic means were not employed to arrest its progress. At least, so I believed. The men were constantly kept at their duty, and no precautions taken for separating those slightly affected and convalescent from the others. In the following spring, about May 1849, the disease had regularly got hold of the regiment, and then I suggested the propriety of inspecting the troops daily, when all cases shewing the slightest symptoms of the disease were at once taken into hospital, and all the convalescents were placed in a detached barrack, apart from any communication, even indirectly, with the other men; and as these latter got well they were drafted to their respective companies. All the men in the regiment were ordered to wash in separate vessels, and to use their own towels only, each man having two; and the sergeants and subaltern officers were held responsible for these regulations being complied with. Even with these precautions, the disease made such progress, that it was with great difficulty we could check it, and that was not fully accomplished until we were about to leave the locality, in the spring of 1850.

“We had many formidable exciting causes to contend with, besides the extent of the existing disease. Athlone is well known as a locality where Ophthalmia constantly prevails. Nearly every regiment quartered there, for many years past, appears to have been affected with the disease. I believe the main cause of its prevalence there depends upon the great exposure of soldiers at night-time, mounting guard on those cold, bleak, unprotected positions upon the batteries and lines adjoining the bank of the River Shannon. The atmosphere is the dampest that I ever experienced, except, perhaps, in India, during the rains. The cold damp wind, coming down off the lake and the bogs at night, used to give the men Ophthalmia as if *struck* by the disease.¹ I have seen

¹ One of the men invalided from the 31st regiment told me to-day, that he went on guard perfectly well at twelve o'clock at night, and was unable to remain on his two hours, his eyes had become so much swollen and so gravelly.

four and sometimes six men come off guard into hospital, with severe conjunctivitis, who had mounted guard perfectly well. I know not if you are aware that soldiers' guard-rooms are about as small as they well can be; and that, when a sentry is relieved, he goes into the guard room, where he and his comrades lie down, in their great coats, altogether, huddled as close as possible. They shut the doors and windows, and light a large fire; and are, consequently, almost stewed. Then, when it comes again to their turn to go on sentry, they change *at once* from this great heat to a two hours' watch on the lines, exposed to the cold damp wind I have described. I am satisfied that it is this atmospheric influence, and this sudden transition, that produces Ophthalmia at Athlone, for many reasons. One will suffice. The Scotch Greys were quartered there with us, as also a battery of Artillery. These were both replaced by the 4th Light Dragoons and another battery of Artillery. Now, the men of these corps are similar to ours in every respect; they were quartered in the same barrack, and had the same rations, etc.; but they had not a single case of Ophthalmia among them; I believe because they never mounted guard as our men did. I do not believe that the disease was produced by the men themselves. Some of the best soldiers we had were attacked with it, and many of the bad ones escaped. From July 1848 to March 1850, 430 cases were admitted into hospital. Only one man went blind with both eyes. He had violent purulent Ophthalmia; and, in spite of the most active means, lost his sight in twenty-four hours. Four lost one eye each. Two of these were invalided, and two are still in the regiment; and twelve others were sent to Dublin, with chronic Ophthalmia, granular lids, opacities of cornea, etc., and were invalided in consequence. During the two years that we were quartered at Athlone, only two men upon the out-stations were attacked by the disease. They each lost an eye. I think you will allow that, out of 430 cases, for only one man to go quite blind, and four to lose one eye each, was fortunate. We were in the habit of making the men march three or four miles into the country every day, as soon as the acute symptoms had subsided, and we found no means more effectual in improving their health. We never confined them to bed, except in the inflammatory stage, and we gave them a generous diet, wine, and porter."

From this valuable communication we learn many useful facts, with respect to the exciting causes of the prevailing epidemic at Athlone, which will, I trust, be properly applied by those whom it may concern, civil and military. We likewise learn the fact, that in persons as healthy as soldiers, for whom every appliance and comfort is provided and the most judicious treatment employed, out of 432 cases, including those upon the out-stations, permanent mischief may result in seven, and twelve more be invalided; making nineteen in all, or one in every twenty-three, on the most moderate calculation.

It is no small satisfaction to me to find that the means which I recommended in Tipperary were immediately put in force, the guardians having, in a few days after my visit, procured suitable accommodation, and having had all the children labouring under Ophthalmia and its effects in the Meeting-house Lane Hospital removed to a country seat, some miles off. And in Athlone, the patients so miserably located in the Malthouse were forthwith removed to the parent Workhouse. In both localities the spread of the disease has, I understand, nearly ceased.

How far the disease has prevailed throughout the Irish Unions generally, I have no means of stating with any degree of accuracy; but I know that it has spread extensively throughout the south and west. At Limerick, in particular, I am informed by Dr. Kavanagh, it has spread extensively in the Poorhouse, and has also prevailed among the lower classes in the town, and in the neighbouring country. Upwards of 2000 cases occurred in the Workhouse and Auxiliary Workhouses of the Union since June last. It has likewise broken out in Kerry, at Tralee, and Dingle, and also at Kenmare. It has recently appeared in the Kilmallock Union, and in the Workhouse at Loughrea, as I have been informed by Dr. Lynch. Ballinasloe Union has also suffered from the epidemic. In Galway Poorhouse, Dr. Brown informs me, it broke out in June, so as to create alarm for its spread; and at the same time it appeared in the Auxiliary Workhouses of that Union, both of them situated in the country. It appeared chiefly among the boys and girls under fifteen years of age; and it was remarked that it never affected those who were labouring under dysentery. The disease was at its height in September, when 102 cases occurred. It has also prevailed slightly at Loughlinstone, near Bray.

What the exact number of persons may be, who have been totally or in part deprived of sight by this epidemic in our Irish Workhouses, I have no means of ascertaining; but I have addressed a letter to the Commissioners, enclosing a form for obtaining the desired information, which has been adopted. The returns which this circular will produce, together with the results of the Census about to be taken, will afford the true statement; and upon a subject of such importance, it is of great consequence that accurate statistical information should replace the loose assertions so frequently made, not only as regards this, but with respect to everything relating to this country.

It is quite manifest that, if the disease continues to spread, a great number of persons must, even with the greatest care and under the most judicious treatment, become blind. It cannot be expected that, in the impoverished state of this country, the friends and relations of such can receive them back into their homes; and it would scarcely be just to leave them in the hospitals and poorhouses. Some suitable asylum, where they will be properly taken care of, and educated according to their capacity, must, in process of time, be erected for their reception and maintenance. The last Poor-Law Act provides for such. At section xiv we read: "And be it enacted, that the Guardians of any Union may send any destitute poor deaf and dumb or blind child under the age of eighteen, to any Institution for the Maintenance of the Deaf and Dumb or Blind which may be approved of by the Commissioners, with the consent of the parents or guardians of such child, and may pay the expense of its maintenance there out of the Rates raised under the authority of the said first-recited Act." This, I believe, is the only country in Europe in which there is no general asylum for the destitute blind.

Dublin, December 1850.