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I.—*Address at the Opening of the Thirty-fourth Session of the Statistical and Social Inquiry Society of Ireland.* By E. D. Mapother, M.D., President.

[Read Tuesday, 30th November, 1880.]

It can scarcely be hoped that the address you are about to hear will secure approval for the Council in their choice of President, for it will deal with only one of the three branches into which the business of the Society is divided—namely, public health. Even thus restricted, however, my subject needs no apology. Lord Beaconsfield has pronounced public health to be the first care of the statesman, and in Ireland the topic is a pressing one. My address will, however, lack the brilliant illustrations and large philosophical deductions to which you have been accustomed from this chair, and to be practical or suggestive, must needs tax your patience with dry facts and figures, many of them of a sombre character.

However, I can begin with one subject for congratulation: fifteen years ago it was my duty in this room to show how vastly inferior were the Irish sanitary statutes to those of Great Britain. Then there was no power, no machinery, central or local, to inquire into the causes of disease, no power even to thin out an over-crowded tenement; and the registration of births and deaths had been working with most palpable benefit for twenty-eight years in England, nine in Scotland before it was granted to this part of the United Kingdom. Now, with some trifling exceptions which will be noted by and by, health laws are uniform and likely to become universally imperative, instead of permissive. As some measure of their benefits, I may mention that for the year ending last March, the Local Government Board sanctioned loans for water supply and sewerage to the amount of £292,824. In 1864, according to Hancock's *Judicial Statistics*, there were very few sanitary prosecutions in Ireland—only one each in Clare, Leitrim, King's County, and Fermanagh. Last year they were 6,242 in all

Ireland—including 78 in Clare, 23 in Leitrim, 4 in King's County, and none at all in Fermanagh. Such figures, and the remarkable variety in the number of the reports from medical officers of health with very similar districts, prove that a much closer inspectional system is required; and the same might be more forcibly said as regards supervision of vaccination, which in England is so thoroughly organized.

Last year, out of every thousand in Ireland, 19·6 were reported to have died; but in many districts, especially those sparsely peopled, numerous deaths were not recorded. As in England, speedy registration should be compulsory—no interment being allowed until the undertaker had produced a certificate of the death and its cause. In this way medical aid is secured for infants and aged or infirm persons who might otherwise be neglected, if burial without certification were possible. Persons qualified to discover the causes of death should be alone recognised. In some English counties 7 or 8, and in Wales 11 per cent. of the deaths are not certified. Deaths are closely proportional to density of population; therefore, while last year the rate was in Galway County 16, it was 35 in Dublin. But such urban excess is reducible. For instance, London that well sanitated city, has a third less mortality than that due to it according to congestion of inhabitants. Of our large towns, Sligo had the lowest rate—namely 21; but such figures cannot be fairly compared with those of Dublin. The 17,000 people of Sligo district cover an area of 30,000 acres; our 314,000 occupy but 10,000 acres. Even within the Dublin Registration District similar sources of fallacy arise. For instance, in Blackrock sub-district—for 7,000 persons the acreage is nearly 1,000; in the Coleraine-street sub-district the population is 32,000, the area about 400 acres, or a condensation 12 times greater. The seven Registrar's districts in Dublin do not appear to have been separately surveyed. The death-rate last year appears as 38 in this dense population, 19 in the suburban one, in the crowded parts of which I nevertheless know purlieus as deadly as any about Coleraine-street. Much more might be adduced to show how greatly needed as sanitary and probably political measures are the unification of areas for fiscal, electoral, and registration purposes, and the differentiation of those that are urban and those mainly rural.

These and many other improvements we may expect from the energy of the Registrar-General, and Census Commissioner, who chosen for proven fitness, has already enhanced the value of the weekly returns by giving the occupations of those who died in Dublin, and the rates for 16 Irish towns and 27 foreign cities which I trust he will summarize yearly. The record of burials, which he obtains from cemeteries under the recent Health Act, has raised the calculated death rate about 10 per cent. over that of years when this means of getting at the whole truth was not at work. He has also promoted the Registration Act, which, after the present year, will oblige death registry within five days.

The sanitary state of Dublin has been so fully investigated by the Royal Commissioners and others that I shall only incidentally

refer to it. The diseases are diagnosed and the cures prescribed, if the tax-payers can afford them, or if private benevolence or treasury generosity come to our aid.

The immigration of the short-lived, and the emigration of those with expectancy of long and prosperous lives, affect death-rate in Dublin more than in other Irish and British cities. The deaths of "persons admitted into public institutions from localities outside the district," amounting to over 3 per cent., are subtracted; but those who have been staying a week or two in Dublin give that city as their residence. Railway development has caused this; as, for instance, the decrease of population in Galway city between 1861 and 1871 was over 22 per cent. In 1871, of our population nearly 5 per cent. was from Munster, nearly 3 per cent. from Connaught, while incomers were much less in other cities. Into Belfast there had, for instance, come but one-sixth as many from the south, and one-eleventh as many from the west. Many poor from Connaught who settle in Dublin are old, uneducated, unvaccinated, and in every way unlikely to be healthy citizens. The amazing increase of business along the docks during the last ten years has fixed a great mass of not very long-lived people on a low unhealthy site. Dublin approaches Paris in metropolitan absorption of the sick (often of those incurably so) because of the fame of its hospitals. Last year nearly one-third of the deaths were in public institutions; in Belfast the proportion was about one-sixth. Again, our female population only exceeds the male by 13 per cent., while in many other cities males, who in larger proportion always are mowed down, number far less. The low death-rate of many health-resorts can be thus explained; in Clifton, where the lowest prevails, the female sex count 73 per cent. of the population.

I will be much surprised if the new census does not show that our death-rate has been over-estimated owing to uncalculated population, and that its excess mainly concerns the poor who crowd this in much greater proportion than other towns. Seventeen years ago a most able statistician claimed a reduction of $1\frac{1}{2}$ per 1,000 on the death-rate of provincial cities, compared with that of London, to which the well-to-do classes flock. If the death-rate of a small district in which the poor are few was taken, I feel sure it would be moderate: for instance, the square in the centre of which we now are—bounded by Grafton, Nassau, and Kildare-streets, and Stephen's-green.

A few comments on some groups of preventable diseases and proposals for their abatement, will follow. The infective maladies destroy less proportionally than in England, because of the lesser communication between various places. The greater spread of commerce and prosperity which we hope for will weaken this immunity, and it behoves us to learn to the fullest every way of prevention. Drainage and tillage of the earth has made ague vanish; vaccination has robbed small-pox of most of its terrors; and we are thus buoyed up with the hope that science may forge us weapons against other deadly zymotics.

A pregnant fact has just come from the study of disease in lower

animals—a subject so long neglected in Ireland. (At last, however, an effort is being made to establish a Veterinary College which the National Museum and College of Surgeons can most amply aid.) Sheep and oxen suffer largely from maladies called anthrax, black quarter, splenic apoplexy, etc., and they affect men as well, especially those who sort wool. Their essence is the growth in the blood of organic bodies known as bacteria, and a drop of such blood taken from one animal will spread the disease in another, if put into its vessels. If a sheep or ox be so infected, it usually dies; but a rabbit does not though it gets the disease; and the inoculation with its blood gives the larger animals a mild and modified form with protection from future attacks. Some analogous researches into the “cholera of fowls” are promising good results.

The public attention has been so frequently attracted to the subject of zymotic diseases—small-pox for the past six years, and fever for the present, especially by the eminent physicians commissioned to the west—that I have decided on dwelling more upon other preventable maladies—not to underrate the importance of measures for checking or exterminating them, but that the general low tone of health which augments the number of those prone to catch such diseases, and fall victims to them, is a wider though less noticed topic. The most striking instance of stamping out infective diseases amongst children in recent years is that of Hastings, owing to the energy of Mrs. Johnson. The death rate there is but 14, and the zymotic rate even lower. Regarding our brother-man far away, epidemics will long remain the biggest questions; for example, from April to August in the present year cholera killed 85,000 in Japan.

Catarrhal, rheumatic, and scrofulous diseases, with onslaughts on our lungs, hearts, and bones respectively, afflict Ireland more than most countries. Evidences that they do, why they do, and suggestions for their prevention may for the sake of brevity be grouped together. Of each 1,000 people in England, there fell last year by diseases of the breathing organs, including consumption, 6; of the Irish, 5·42—an enormous rate, considering how out-of-doors our rural people are. It is very desirable that the Registrar-General should give us the yearly deaths by consumption in country towns, and quote those of English cities. In Dublin 3,794 so perished, being 1,200 over the ten years’ average.

Moistness of air, soil, and dwellings is the main promoter of this proneness. Our island is dish-shaped, the sea within sixty miles of any part, many of our rivers want free outlet, and therefore we have scanty trees, and the forests and brushwood of old are swamped in the bogs. Now our planting is only half that of Scotland, a more sparsely peopled country. Interference with the passage of stimulative and oxidising sunlight, lowering of temperature, and checking of skin evaporation are the chief modes in which this pervading dampness heightens our mortality. Of smoke, our atmosphere is far more free than that of English cities and rural districts comparatively. What can be done for those who cannot escape to such high levels as Davos Platz, where more air and drier air must be breathed? Let the Dublin, Mourne, or Kerry mountains become the sites of comfortable

dwellings, while the slower measure of the reclamation of the bogs is being carried out. Nearness to sea, with its concurring dampness does not by itself promote consumption; for instance, the disease is most rare in the island of Lewis, and unknown in that of Mull: both are remarkably indented by the ocean, but both are hilly, the latter strikingly so, and fish forms a large part of the diet. Much the same might be said of our health resorts at Glengarriffe and Glandore bays, which are protected northwards by elevation and open southwards to the warm Gulf-stream.

Proneness to, and endurance of disease are by no means equal with the Saxon and the Celt. Nurtured in the hardy north, and through countless generations fed largely on animal food, the former race has much greater visceral strength, while the southern-bred people still preserve their inheritance of quick brains and active muscles, unless modifying conditions be most unfavourable. The ease with which the Saxon bears change of climate has made him the greatest of colonists; but under happy circumstances of climate and food the Celt has come well to the front, especially in the Australasian and Canadian Colonies. In England there is a much greater infusion of Celtic blood than generally supposed. In Ireland, in 1760, the proportion of Saxon element in the population was estimated as follows:—Connaught, 1-10th; Munster, 1-6th; Leinster, 1-3rd; Ulster, 3-5ths. Now the proportions are much less, and after the coming census they may be guessed by the prevailing religions, or still better by the names of those enumerated.

Emigration has raised the ratio of Celtic females, and as it is by mothers visceral health and disease mainly pass, Ireland's share of scrofula, consumption, or in a word—a hard one—cachectic diseases, may have been thus augmented. Celts and Germans each form about one-fifth of the population of New York. Amongst the former, deaths by consumption are twice as many; by bronchitis, three-fifths more; by Bright's disease, thrice the number. Not drink, nor crowded rooms, nor scantily clothed and unwashed skins, nor unthriftiness, nor ignorance, can be acquitted of having aided and abetted this manslaughter. In that city last year, 105 Irish, 35 Germans, died from intemperance; by suicide, 50 Germans, 11 Irish. Of the total mortality, over 53 per cent. was in tenement houses, containing more than three families, which is there the legal definition of such buildings.

Dampness of soil is the greatest promoter of consumption, and the drainage of several towns Salisbury and Ely, for example, has lowered by half the prevalence of that pest, and in the latter town malarial maladies and typhoid in equal degrees. The progress, too, of the disease has been retarded; for thirty years ago the average length of life of a victim was two years, now it is eight. In 1866 I found in our own city that cholera had almost its exclusive home along obstructed old watercourses and wells. The same was proved in New York in 1872 of diphtheria; and because of this dependency on dampness this is the only zymotic more frequent in the country places than in towns. Catarrhal and rheumatic affections are greatly in excess in Dublin, along such old streams as those in Shaw-street,

Montague-court, Boot-lane, and Wormwood-gate—which are of course at low levels.

Of Dublin, Camden says: “The Irish call it ‘The town on the ford of the hurdles’, for so they think the foundation lies, the ground being soft and quaggy.” In digging for foundations in Castle-street and places further from the present river banks, mud containing marine shells has been freely found, and in other lower levels trunks of trees, placed as piles, tend to show that old Dubliners lived in dwellings, termed crannogs, like those found round lakes in Switzerland and elsewhere in Europe.

The health of our poorer people is lowered in greatest degree by wretchedness of habitation. In 1871 there were in Ireland 155,000 one roomed cabins, with an average of four inmates; this being from 1861, an increase of 66,000, although there was a decrease of houses in general. Such hovels are often pitched regardless of dryness of soil, or means of approach; their clay floors are soaked with organic matter, or hollowed into pools; their roofs are of decomposing straw, or rushes; they are often without back doors, or movable windows for airing; and their chimneys are so ill built that smoke fills the dwellings in windy weather—hence ophthalmia used to be a constant Irish pest, but somehow it has lessened, and the girls have better complexions than the smoked ham tint described by Arthur Young. Sometimes the lower stratum of atmosphere in a cabin is the only one to be breathed; all above are choking. At night the door is closed, and each inmate has about 150 cubic feet of air renewable only through the chimney. If this outlet, which is often made of wicker or reeds, were divided by a vertical partition, the used and the pure air would interchange more freely. Still in many cases the manure heap surrounds the walls.

For the building of decent houses for the small farmers, the Board of Works has lent, since the Act passed in 1860, £252,310 in 446 loans, including for last year £9,725. Under another Act, loans to build lodging-houses and dwellings for labourers amounting to £50,100 were applied for, 437 houses to be erected. There are still many legal discouragements to the building of labourers’ dwellings in rural districts and small towns, and loans are not granted on terms as favorable as for other land improvements; undoubtedly they should be, the more so as such dwellings are eagerly sought for and let at a good profit. That union-rating would mitigate this and many other evils there is most abundant evidence in the *Journals* of our Society. Dublin tenements are too familiar to need description; but they injure their inmates more than country cabins, as they are more occupied by day, and they have lately bred a saddening amount of crime. Their occupiers have been treated with undue leniency, and expedition in the ejectment of those grossly ill-conducted is most earnestly to be wished for. Tenements in provincial cities in 1869 were not, and, I fear, are not better. Lord Emly, then our president, described the poor people of the old town part of Limerick as living with one room to a family, and sometimes three or four families in one room.

The Artizans’ Dwellings Act does not give a speedy remedy. In

May, 1876, it was my duty under it to condemn twelve unhealthy areas. One large one, the Coombe, has been cleared by the Corporation who have begun with another, Plunkett-street. This body undertook as much as its finances would justify, while it was remembered that the Boundary Commission was likely to lead to increase of the taxable area, and has not lost a day in forwarding the work. Clarendon Market has been in great part cleared, and Boyne-street area has of itself fallen into utter ruin. Many of the others are more unhealthy than when condemned four and a half years ago. Next March the Corporation becomes owner in fee of a large district between Church-street and the Royal Barracks, and already plans for street improvements and artisans' houses are matured. In his recent charge to the Grand Jury the Recorder has forcibly stated the four things required: (1) Revaluation of the city, (2) Government loans, (3) Co-operation of the contiguous townships, and (4) Private enterprise as in Glasgow. What money has done in ten years in Liverpool and Glasgow it could do in Dublin. It could decently house the people, and lower by one fourth death-rate, sickness, pauperism, drunkenness, and vice. But a great public spirit must arise, a public spirit not amongst talkers only, but amongst those who will bear enormous taxation, or like Dargan, the Guinnesses, or Roe, act munificently for objects even more humane than those which moved these philanthropists. In Liverpool many of those who pined in dark fetid courts now live in suburban cottages, and reach their work by penny trains.

Glasgow under a special Act—which, as its citizens may proudly remember, passed unopposed—has spent £1,250,000 derived from taxes for fifteen years. This period expires next May, when a further five years assessment will be sought. The general death-rate has been lowered 6 per 1,000, and that of children under five years, 28 per 1,000, and fever lessens year by year. The two last are true tests of increasing salubrity. The Public Health Act legalises the union of districts for the purpose of supplying artisans' dwellings, and it is manifestly just that such rich contiguous townships as Rathmines and Pembroke should, with this view at least, join Dublin, from which they employ but never house their working people. The sections of the Public Health Act regulating new buildings do not affect country cottages; but it may be hoped that concrete, slates, large moveable sashes, and other civilized appliances will come into general use. These sections, however, empower the 42 urban authorities to insist on damp-proof foundations, by the use of asphalt or glazed brick, with ventilation under the ground flooring. The Artizan's Dwellings Act, 1875, only applies to Dublin, Belfast, Cork, Limerick, Derry, and Waterford; but in smaller towns houses for the working-classes are very scanty and dear. In no place but London does it empower the Corporation to build houses on the areas, and the sale of them when cleared has been found most difficult in many towns. In new tenements and in the old when the new are built, the minimum cubic space ought to be raised from 300 feet to 500 for adults, 300 for children, as in London. A single small room could not then be a family dwelling. The

power to prevent overcrowding should be clearly extended to tenements held by one family only. In Dublin, stables and small houses built in the yards behind large ones, have become most unhealthy abodes for the poor.

Suburban cottages for artisans are far safer than city tenements. No less remarkable a person than Queen Elizabeth condemned the latter. In 1580 her words were :

“Great multitudes of poor people inhabiting small rooms, being therein heaped together and in a sort smothered in one house : if plague or sickness came amongst them it would presently spread through the whole city and confines.”

In Dublin, and still more in our country towns, there is a want of decent, airy, night refuges, where travellers may for a few pence, or even if they are penniless, get shelter and quiet for the weary hours. Certain of our council could tell how ill-provided is this city with refuges for males of the latter class. It seems a want, that Public Health Acts do not allow town councils to build and maintain cheap and free night asylums—something like the Casual Wards in England. As did the betaghs of ancient Ireland, ill-kept, crowded night rests are sure to spread fever. Canal boats are often still more stifling—80 cubic feet being the average space per head, and they should be treated by our sanitary authorities as nuisances.

The health giving influence of abundant air, dry and equally heated, is best exemplified in modern prisons whose inmates suffer a death-rate of about one-fifth that raging in the slums they come from. A hundred ago, when Howard began his crusade, prisons were pest houses ; now they are the norma for sanitarians to point to ; but luckily there still is much to remind the prisoner that it is better to be honest than criminal.

A truly noble Dublin benefactor has given a splendid park for the people on the south side ; on the north and the central districts lungs in the form of promenades or play-grounds to take the children from the streets and lanes are sadly wanting. The making of paths through disused grave-yards—for instance those of St. Mary's, St. Michan's, and St. Paul's—the clearing of ruined spaces such as that north of Audeon's-arch, that south of Wood-quay, that around Cole's-lane, or that between Cannon-street and Bull-alley, would be cheap and most useful measures. The space at Schoolhouse-lane, High-street, was offered last month by the Corporation by auction, but there was no bidder. In this most densely peopled district a fair play-ground or at least a ball alley could be made. In our small country towns there are scarcely any opportunities for athletic recreations—those means for quickening and systematizing our muscles, those foes of drunkenness and discontent. There is no reason why tennis should be restricted to the richer lads and lasses. Dr. Richardson wisely says :

“All recreations which bring together the young of both sexes are doubly useful, imparting courage and strength to women, and gentleness and strength to men.”

If the Temple Gardens were freely opened, and passenger vehicles

were allowed to pass by daytime from Henrietta-street to the Broadstone and Church-street gates, enormous public convenience would ensue, with very slight disturbance to those who congregate there.

If we can ever afford to fully work the Artizans' Dwellings Act, scores of good thoroughfares will replace crooked and ruinous lanes.

Nine years ago Dr. Hancock attacked one great impediment which yet is not removed:—

“The great causes of waste spaces in towns and ruined houses is defective title. Local authorities ought to be enabled to stop this evil, which diminishes the property liable to local taxes, and increases the cost of all town arrangements, by lengthening unnecessarily streets, street-pipes, gas, etc. Let the local authority, after twelve months' notice, be enabled to sell such premises, take photographs of existing state, and invest money. The complications of title would be transferred to the photographs and invested tenancy, and the unoccupied or ruined premises would be sold with absolute title, to a building society for artizans' and labourers' dwellings.”

So many are the palpable improvements, and yet so intricate the obstructions, that enthusiastic Dubliners may well sigh for another Baron Hausmann, who rebuilt one-third of Paris in some fifteen years.

The food of our humbler people is bad from want or waste of money to buy it, and in greater degrees from faults of distribution and preparation. Passing by periods of acute distress, like that which the goodness of Providence and the generosity of our fellow-men has just alleviated, Ireland is always in a state of chronic poverty. But recurring famines will directly and hereditarily lower the physique and morale of any race. In 1840, Thomas Carlyle, characterised our peasants as “mud-housed, rag-clad, potato-fed.” To them at present the latter epithets do not apply, and all our efforts should be aimed towards the bettering of dwellings. Just as fierce winters check wood growth in our forests, famine keeps up mortality for years after plenty has succeeded: thus the deaths were three times as many in the third year after that of 1845-'6-'7, as the third year before it.

Since Strabo called us “poephagi,” herb-eaters, our peasant's food has been too bulky and innutritious. The teeth in ancient Irish skulls are worn like those of horses, and more bronze sickles are said to have been found in Ireland than in all the rest of Europe. In the famines of 1822 and 1846 wood sorrel and other wild plants were resorted to. Some eight or ten centuries ago, however, animal food aided largely the physical prowess, and the mental eminence of the Irish, for then the flesh of the game they hunted and butter were plentifully used.

Just one hundred years ago, Arthur Young described the “potato bowl placed on the floor, the whole family around it devouring quantities almost incredible, the beggar seating himself to it with a hearty welcome.” In 1866, as the result of 2,000 inquiries, Dr. Cameron estimated the daily food of the southern and western peasant, as 14lbs. of potatoes, 48ozs. of buttermilk. It is hard to believe, yet it is true, that the boiling of this staple food is badly done in Ireland—turnip-like, water-logged, they are often served to us; dry, mealy, almost feathery, in other culinary “better lands.” In 1864

Dr. E. Smith, who was commissioned by government, reported that the weekly consumption by the Irish farm labourer, and of his English fellow, was in ounces :

		Irish.		English.
Bread-stuffs,	...	326	..	196
Potatoes,	..	92	...	96
Meat,	...	4.5	...	16
Milk,	...	135	...	32
Fats,	...	1.3	...	5.5

This return was then erroneous and is now trebly so, as regards potatoes and milk. Englishmen per head consume thrice as much meat as either Irishmen or their brother Celts in France. Stirabout of Indian meal, boiled twenty minutes, soda cakes badly made at home, and white bread from the next town, now largely feed the peasants.

So notorious has the waste caused by stripping off the outer and most nutritive layers of the wheat grain become, that a society has been formed in London for promoting a sounder mode of milling. The supply of milk being most scanty, tea is taken instead, and dripping is occasionally and bacon rarely added. This want of fat in the dietary promotes consumption and scrofulous diseases. If the fat called "butterine" be sold as such, and if it be cooked, it would be a most useful addition to the diet of the poor. The cheap bacon from America has done much good. Few cottiers have a cow, and those richer are too proud to sell the milk, or they live too far off. An increase in the rearing of goats, which were most plenty in Arthur Young's time, would be very beneficial. The dietary of our poor town population is largely made up of white bread and tea. This drink is agreeable and invigorating; but in excess it is depressing, and as it is usually boiled very astringent, and being a dear food the money wasted on it would buy meat and vegetables. The fashion among the rich of afternoon tea, no food for several hours previously having been taken, is equally pernicious. The dyspeptic and nervous females who crowd our dispensaries or the studies of fashionable physicians thus err in diet. If pea-soup or gruel were substituted by peasants at one meal at least, much good would result. The former is truly valued in Scotland, and the latter has been given to gas and railway stokers, and has proved itself a most nourishing and quickly restorative food. Of vegetables neither rich nor poor in Dublin have a steady supply, mainly because the market is ill kept and remote, and growers do not get the encouragement of fair proportion of the high prices which the consumer has to pay. In winter symptoms of scurvy are quite common amongst the poor, and the rich do not get the choice vegetables for a month after they are cheap at Covent Garden.

In no country is a knowledge of cookery less diffused than in Ireland; but the subject is now being taught in some of the Model and Industrial Schools. South Kensington has sent out one hundred and seventy qualified teachers; and Mrs. Jellicoe, amongst other works, did something for the movement in Dublin. Soup kitchens and public ovens have done immense service amongst the working people of Liverpool, and could be made popular here perhaps in con-

junction with our coffee taverns. Owing to economy of fuel and wholesale purchase, soup made from ox-head or sheep-head and fresh vegetables is sold at 2d. or 3d. a quart. This, or a meat stew cooked for a penny, the thrifty wife will carry hot to wherever her husband is working in and about many English towns. Irish labourers, especially the agricultural, when working far from home, have too often to dine off cold unsavoury food—even cold potatoes alone. Where several are working together, a mess system should be established, as both comfort and economy would result for employed and employer—good food always ensuring honest work. The meals of some hundreds of men employed in the tramways are taken under most uncomfortable conditions—carried from their homes, and eaten in the six or seven minutes between the times of arrival and departure. Surely between twelve and two o'clock, when traffic is slack, such arrangements might be made as would give twenty minutes to each for dinner, and provide it in or near the depots at about sixpence a head. Their hours of work average thirteen without break. The dietary of railway employees is a still more pressing question. Contracting out of meal time should not be allowed.

I need not touch the great subject of intemperance, for it is daily brought before us. Death registration is not old enough with us to test if a most lamentable fact, which has been lately made out in England, applies to Ireland. It is that whilst the mortalities of other ages are greatly decreasing, that of males from 35 to 65 is increasing, by those causes of death which alcohol is capable of producing. The best friend to temperance in cities is the workman's club. In that established this year in Christ Church-place there are facilities at least free enough for getting drink; yet by encouraging the sale of food at the same time, and by prohibiting treating and drinking by rounds (the ruinous habits of public houses and many bars), excess is avoided. At the end of June a most satisfactory report for the first half year was presented in this most exemplary institution, which Dublin owes to the zeal of Miss L'Estrange. The Club in York-street on temperance principles has been also most successful.

Two measures have been just adopted in Dublin from which innumerable benefits will accrue—the registration of dairies, and the restriction of the slaughtering of animals to one place. It is now certain that typhoid and scarlatina are in great degree propagated by impurities in milk, and that its dilution or bad quality is responsible for much mortality and enfeeblement of health among infants. Cleanliness and the use of untainted water will be secured for the future in our dairies. Instead of some 100 slaughter-houses, placed in such closely peopled districts that their sights could not fail to debase the young, and so small and ill constructed that the earth all around became soaked with organic matter, we shall have a great abattoir in which every modern scientific appliance will be used to kill the animals with the least pain, and to utilise every possible produce. If the cattle for the English markets were slaughtered here, and the meat shipped, great economy would result. The less valuable parts would be available for the poor, and the hides profitably manufactured—for tanning is one of the few trades still thriving

with us. Similar advantages would follow if beasts were slaughtered in provincial towns, and sent to Dublin by rail. The rates, however, should be lowered, as at present the legs of the living beasts competing, the charges are far greater for carcases than cattle.

Dublin excels her provincial sisters in one sanitary point at least—namely water supply, and that in amount, distribution, and quality. For this reason, and because of the amazing perseverance, despite of honest but mistaken opposition, the memory of its originator, Sir John Gray, whom I proudly claim to have been a member of my profession, is justly and gratefully esteemed by all classes. It is even more copious than he estimated, and is ready to feed, flush, and wash a contiguous township, which, however, last week refused to receive it by the election of representatives pledged against it.

The Irish Act of 1717, which specially guarded Dublin, ordained that the spouts which then jetted the rain from the roofs to the middle of the street, should go down the walls to near the ground. Now-a-days they should join the sewers, to flush and ventilate them, and leave the pathways dry. That Act very wisely provided that as many children were killed in the street, all draymen should lead their horses.

It has been recently urged that the dampness of our soil, houses, and atmosphere, has been increased by the spilling of this plentiful water, and the non-removal of that formerly drawn at wells. If this be so, the extension of pipes into tenements would not be desirable. The subsoil saturation, however, will lessen as main drains are constructed. In order that staunchness may be secured, and that admixture may be impossible, the day may come when our pipes for water, gas, and sewage will be above ground. At any rate the supply should be uncontaminable and constant. Many appliances have been modelled after the wondrous structure of the body of man, and the current through his house may be likened to the circulation: there should be arteries to bring in the water, capillaries to spread it, and veins, or waste pipes, to remove it when fouled. Several towns are taking steps to get good water in plenty under the recent Act. Sligo, for instance, is seeking a loan of £30,000, after about half that sum had been wasted in fruitless litigation before Lords' and Commons' Committees, under the faulty Private Bill System.

A few instances of impurities disclosed by Dr. Cameron's analyses will show how much need there is for the extension of water works. In Waterford, where now a safe supply is being procured, the water of one pump held, per gallon, 10 grains of nitric acid; of another, 13 chlorine, 4 ammonia, and 3 nitric acid—all these things giving evidence of dangerous pollution. A third water there had 385 grains of solids, or more than many sewages contain. The pump water from Rock-street, Tralee, had 201 grains of solids, and that from a well in Dalkey had 22 grains of organic matter. During the present summer, many registrars reported dangerous deficiencies; for instance, in Goleen and Crookhaven "there are no pumps, and the wells would disgrace Zululand;" and Ballinahinch (once a famous spa) depends mainly on water carried by donkeys. Relief was urged three

years ago but is not yet granted. Such populous places as Fermoy, Ballina, and Mullingar have unsafe supplies, and Kilkenny, Carlow, and Banbridge wells only. There is no evidence that a soft water like the Vartry or Loch Katrine is unwholesome. Our sailors now largely drink distilled water, and on board some of H. M. ships twenty tons of such water can be taken from the ocean daily. The lime soft water wants is supplied in many foods; hard water, on the contrary, is a prolific cause of dyspepsia and other diseases.

Excelling nearly every city in water supply, we fall far below par in respect to baths; for instance, there is not one where swimming is taught. There are dozens in London, where children learn the art in a few lessons. Warm baths are few and distant from many populous districts; but I must confess the few are not fully used. But let us hope our people will learn better. The baths at Usher's Island have been for thirty years most perseveringly kept, and are now to be placed under public control. The Bath Act of 1878 mainly refers to cheap cold baths in summer, which owing to our nearness to the sea are scarcely wanted here. It forbids the use of the building during winter for music or dancing.

Mortality of infants occupies a large share of the attention of sanitarians, because it is excessive although more within control than that of adults. The most ignorant will often help for the bettering of child life, while obtusely careless of their own. The standard to be hoped for is that of 1,000 babes born, 900 shall be alive at end of first year; at fifth, 860; and at fifteenth, 830. The proportions in various countries are as follows:—

Number of yearly deaths out of each thousand.			
		Under One year of age.	Under Five years of age.
Ireland,	...	102	...
Sweden,	..	141	...
England,	.	182	...
France,	...	223	...
Italy,	.	273	...
Upper Bavaria,		424	...

If registration be fairly accurate, these figures declare much for motherly care in our poor land. All the rest of the world is beaten by Utah, where the deaths under 5 years are 75 per cent. of the entire number of deaths.

These are averages of town and country, the rates being a third higher in the former, as density and poverty of population always hold a steady ratio with the death rates of infants, a statement for which so ancient and respectable an authority as Adam Smith may be quoted. He dwells on the early marriages of the poor, the quick deaths of their children, and the quickly following succession of births to yield the same harvest. In Dublin last year the deaths of infants under one year were 195 per 1,000 of those born; and the death-rate of those under five years was 109, an enormous increase on the ten year average.

¶ The main diseases to which the deaths of infants under one year are attributed are convulsions and diarrhoea. The former is not a

well defined term ; but the causes which lead to deaths recorded under that head are palpable. To scanty and spoiled cows' milk, or stuff that goes by that name, one half are due. At dairy yards in winter, and distant fields in summer, it is procured from several cows which have calved at various periods. By dilution with water, infants are too often robbed of one-third their intended nourishment, in the case of the Mountmellick Workhouse some years ago, of two thirds ; but if the added water be impure it becomes veritable poison. In this city and many others, the spread of typhoid fever by special milk supplies has been incontestably proven. Kept for hours in the shops, or in the close rooms of the poor, it absorbs organic germs, and such spoiled milk irritates rather than supplies the digestive organs. Diarrhœa, or a reflected shock on the nervous system ensues, often with fatal issue.

The total exclusion of dairy cows from cities, and scrupulous cleanliness, would be possible and potent remedies. Vessels or carboys made of clearer glass than those used for sulphuric acid, with ground stoppers and placed in basket work, would be most desirable means of carriage. A certain number of the cows could be milked at various hours, so as to give four times daily a fresh supply. Milk taverns, with the points just noted assured, would offer a most profitable field for benevolence, if not profit. The municipal hospitals of Paris are just now trying a series of great experiments on the provision of fresh milk from various animals, at different stages in the feeding of infants. Cocoa is one of the best substitutes for milk amongst the poor at every period of life. It must always be remembered that the starchy part of any of the foods from cereal grains cannot be digested by the saliva of young infants.

Day-nurseries are also most desirable, the limits of ages being from nine months to five years. Before the first period, no inducement for giving up the natural maternal support should be held out, and after the latter, school should assert its sway. Most thorough inspection of the mother's circumstances should precede the admission of any child ; she should be relieved of the charge of the child for the free use of working hours only—say eight to six, and not that the time be spent in idleness or worse. Elder children should then be free for school : Sunday should be, of course, a closed day. To prevent such a child-rearing system becoming a training into pauperism, private and not state charity should supply the funds, and it should not become a home or orphanage of any kind. Such places, called with holy thought *crèches*, are general in France and Belgium, and some American districts. In Glasgow a small one accommodates twenty children from seven to seven daily—a charge of threepence being made, which includes suitable food. Each day at entry a bath and the wear of special clothing is insisted on, and at one o'clock the mothers may visit. On fine days exercise on foot or in perambulators is arranged. The expenses are £120 yearly—of which the threepennies make up £45. There should be a daily medical visit to catch at the start any infective case. Although in Dublin infant schools provide for many, and the infrequent employment of married women lessens the need, benevolence has a fair field in the

establishment of such crèches. In Belfast they are imperatively required, the mortality of the infants of factory operatives being thrice that of the well-to-do mothers. In this city dress-making, book-binding, and laundry work are now the only extensive female handicrafts. The industries of the North appear to be also failing, for there were 1,500 scutch mills in 1869, 300 less last year; but the survivors are, let us hope, the largest and the fittest.

In the United Kingdom 1,500 children yearly are killed by burns suffered while mothers are out, and 300 in London are destroyed by overlying or suffocation in bed. For the prevention of the latter fatality, if separate sleeping places cannot be spared, the *arcuccio* of Florence, a wicker-work, like that with which we protect a broken leg in hospitals, is cheap and effectual.

Amongst infants nursed, great mortality occurs—owing, sad it is to say, from the scanty food; shocking it is to say, from the intemperance of their mothers. Married women who work in factories should always have the benefit of the Mulhouse system—namely absence for the two months following the birth of a child, and for the subsequent seven months two hours leave at mid-day.

After five years are reached, comes school life, with play, books, and handiwork well mingled. From this age till fifteen the yearly growth should be about two and a-half inches, the gain in weight being two pounds per inch, from three to four feet, and two and a-half pounds from four to five. Any wide departure from these standards denotes danger.

At mental diseases our glance cannot be as gloomy as it has been at those corporeal. In our asylums, skilled residents, independent physicians, and inspectors afford every care, and by recreation and literary and industrial occupation in turns great curative influence is exerted. Still there are over 3,000 lunatics and imbeciles uncared for. Without multiplication or enlargement of asylums, much accommodation and economy of attendance may be secured by lessening the single room system, as suggested in this Society by Dr. Lalor. Further, the Inquiry Commissioners of 1878 suggest the transference of the incurable and harmless to the workhouses, so that the asylums would be still more available for the cure and training of those susceptible of it. Lastly, the Lord Chancellor's Bill proposed the boarding-out of harmless lunatics, or aid for their support to relatives, which would increase the state contributions for such purposes by £25,000 yearly. The boarding-out system has worked well in Belgium for centuries, and in Scotland is constantly and strongly praised by Dr. Mitchell of the Lunacy Board. When Dean Swift founded St. Patrick's Hospital he thought all Ireland could not offer patients to fill it; now there are 12,819 persons in public and private asylums—a proportion nearly one-fourth greater than in England, according to respective populations. Emigration of the sane—the afflicted being left behind—fairly explains this excess.

Inquests in various towns in Ireland are held in strikingly different proportions of the deaths: namely, Belfast, 1-57th; Dublin, 1-46th; Galway, 1-32nd; Limerick, 1-28th; Cork, 1-23rd; Derry and Waterford, 1-22nd; and Sligo, 1-13th. The proportions of these

investigated deaths which are violent also vary remarkably: Dublin, 4-5ths; Belfast, 2-3rds; Limerick, Galway, and Sligo, 2-5ths; Cork and Waterford, 1-4th; and Derry, 1-5th. In all England the proportion is 2-3rds, and in London 5-8ths. In some of our towns the coroners must be far more active than their brethren, or suspicious deaths are sadly numerous. Violent deaths out of every million living are—in England, 745; New York, 730; Prussia, 486; and in the most sober nation, France, 268. In Dublin last year the ratio was 660.

The system for the cure of the sick poor in Ireland under the Act of 1851 excels that of any country in the world. Up to that year it had been inferior to that of most of them, for example in 1836 the County of Mayo had but one dispensary. Still there are desiderata, if our wishes can be realized within the fair limits set by cost and expediency. The establishment in small towns of hospitals with even four beds would amazingly check infection, and save many a jeopardized life, when carriage even by proper vehicles, instead of the dangerous ones often in use, to a workhouse hospital or county infirmary, should prove fatal. Cottage hospitals in England, although a recent innovation, are already a proven success. The supply of drugs could be made cheap and reliable, if it be not against the principles of political economy to take it from the smaller traders, and the purchasing guardians with “lowest tender” leanings by placing it in the hands of a trained buyer and analyst at a central depot. Or it has been suggested that the drugs should be bought, not by contract but at a reduction on the monthly lists of prices. There is reason for believing that one-third of the drugs supplied to workhouse and dispensary patients is not pure and effective.

Above all, the bettering of the condition of the Dispensary doctor is to be wished for. The provision of suitable residences for those who live in remote districts, under Colonel Bruen's Act of last year, has been availed of in only two instances. Many well able to pay, claim the doctor's gratuitous services, and the only fit remedy is for the committee to make a list yearly or half-yearly of those houses whose inmates are suitable for relief. The right of pension on the grounds of length of service or proven ill health, as in the case of other civil servants, should be conceded, as several instances of grossly harsh refusals have arisen. All unions in which the officer had served should contribute, and the State should in all justice pay the same proportion towards the maintenance of the worked out, which it does to the working doctor. That it does not, is the cause of many a septuagenarian being kept in very galling harness.

Honorary distinctions are not yet destined for those who fight diseases in civil life; but if time allowed I could cite many acts of heroism, and many lives devoted to the good of their fellow-men in the civil medical service, which cannot boast of a single State decoration.

Dispensary medical officers are usually chosen for local, personal, and other reasons, quite apart from professional fitness. I confess that the last-named and only justifiable element is hard to prove, for plenty of testimonials are often handed in by the least deserving.

Service in hospitals, high-class diplomas, especially of those colleges where order of merit is recorded, prove respective fitness very reliably; and that, two years before the needed age of twenty-three is reached. Doctors win army and navy positions, which are far more desirable, at twenty-one years; why must they spend two years more, perhaps idly at home, before they get dispensaries?

It has been often urged that poor-law physiciancies should be given by competitive examination as those of the army and navy are. The services differ most widely; for in the last named all the selected attain equal advantage in regard to pay, and they follow a moving population. While one dispensary doctor may settle in a large and poor district in which severe labour earns £150 yearly, another may at once obtain a small but well-to-do *clientèle*, where one third the work will gain three times the income. As three qualifying examinations must be already passed, none further is needed to test efficiency; but a half-yearly competition under the Local Government Board would establish a roll of merit. From such a roll vacancies, as they occur might be filled, the probationers meanwhile acting as assistant officers to workhouses, many of which are now undermanned. There are many difficulties, however, in the working of such a system; for instance, it would be lamentable that a brilliant man should be wasted on a dismal western district; and promotion for high marks or good service from one district to another would imply the severance of social and confidential ties which quickly bind together the doctor and his patients.

Union hospitals have undergone even a greater change than dispensaries. During the first four months of 1847 there were in that of Cork 2,130 deaths, and that maladministration shared with famine and fever the responsibility will be acknowledged when it appears that in the convalescent ward there were but 44 beds for 125 patients. At the present day many of them are so well officered and so full of instructive cases that students can with advantage attend them. In Dublin the sick and maimed poor have abundant hospital accommodation in the ten educational and the many special institutions. Such distribution brings relief near to the sufferer, and the necessary subdivision of the opportunities for study could be easily met by every two or three of them forming common classes. Medical opinion has not weight enough in the governing boards; but this is likely to be righted when the loss of a medical school with us and a series of disasters in a London hospital come to be calmly judged by the subscribing public. The Corporation, which grants £4,600 yearly to our hospitals, has wisely urged the establishment of observation wards, wherein cases with suspected infectiveness could be isolated. We have likewise the special advantage of two large refuges where the incurable may end their earthly sorrows in peace, and two Convalescent Homes, which speed the recovery of the breadwinner in a way impossible in town hospitals. The large bequest of Mr. M. B. Mullins, once an apprentice of the great surgeon Sir W. Lawrence, has largely aided the Blackrock Home. The day will come when sea-bathing infirmaries and mountain sanatoria will prove economical of the health and strength of our race, and even of the taxes.

Last year Mrs. M. J. O'Connell gave us proof of the undue prevalence of scrofula and the deformities and disabilities it causes in Ireland, and forcibly urged the establishment of special institutions for treating such cases. In Dublin special hospitals eye and ear cases are paid for by the unions they come from, and the same system might be fairly extended to patients whose bones, joints, or skin are the seats of scrofulous diseases. In Cork Union, 650 children have been boarded out since 1862, of whom died but the amazingly small number of 20.

This address labours under the disadvantage of coming nine years after the census, the great social survey which must form the basis of all sanitary calculations. The United Kingdom, and I think I may say, the Western Isle of it especially, takes the lead in the methods of enumerating the population and its conditions. For instance, in the United States, owing to their faulty electoral system, and diverse wishes of the people of each state, no papers are issued beforehand, and the collection of data goes on for three months. Under the law, however, by which the census is being taken, party selection of officers is forbidden. Ours will be, it is to be hoped, as similar as possible in every part of the United Kingdom, after the lines drawn by the illustrious Dr. Farr. The science of vital statistics may be considered to have arisen from the paper in the Royal Society on the births in London from 1629 to 1710, by Dr. Arbuthnot. It was to this great and good man Pope wrote: "You are fitter to live or to die than any man I know." As England was the pioneer in vital statistics and hygiene, so is she now the nation where these sciences are most successfully cultivated.

I feel sure the Registrar-General and the other Census Commissioner will pardon me if I express the hope that the information shall be very full as regards birth-places of all, and the date of immigration of those who come from rural to urban districts. So migratory are the Irish that as far back as 1848 Dr. Hancock told us that one-third of the residents of Dublin City were born outside of Dublin County. Death-rates may be lowered or raised according to the healthiness of the incomers. It will be possible to learn in every household the numbers (if any) of children born, still-born, or dead—and if so by what diseases, and at what ages, and if each member of it living has been vaccinated or revaccinated.

As regards ages of adults, the truth might be better gleaned by noting the year of birth rather than the years reached. Every week in St. Vincent's Hospital I meet dozens of substractions of ages—few of them wilful. Waterloo, the visit of George IV., the cholera epidemics, the great famine, the visits of the Queen, are epochs which will jog the memories or traditions of many who from many various motives would shrink at putting down their present age. For those who desired privacy, the returns might be sent direct under a three-penny stamp. The two orders in the agricultural class heretofore have been (1) persons possessing and working the land and employed in growing grain, fruits, grasses, animals, and other products; and (2) persons engaged about animals.

It is very desirable that we shall have the agricultural population most clearly distinguished as herds and husbandmen, as we have the acres grazed and those tilled, in order to let it appear how far the food-producing and man-supporting powers of our land are utilized. The social circumstances of such a county as Meath, where those who rent the land send from it only grass-fed cattle, while with money, often borrowed, they buy every necessary—bread, butter, bacon, frieze, etc., should be contrasted with counties which are really agricultural. In the United States just now, they are working at the enumeration of special industries, diverse as those of tobacco, fisheries, forestry, and lumbering, the transport of meat, and a dozen others, by special commissioners of proven ability as experts in each branch.

The last census was taken 2nd April, 1871, and on 14th June following several data were issued in a printed paper. I may therefore express the hope that the main figures may be analyzed in time for publication in Thom's Directory for 1882, as that great book is now a universal reference. I feel proud to say that the first money I ever earned was for giving aid—very humble though it was—to the compilation of that work for 1849.

So great an authority as Dr. Lyon Playfair tells us that "Till we have a system of disease registration, public health cannot be administered with a full intelligence." This is strikingly true of catching diseases, the spread of which might be greatly checked if each case was known to the preventive authorities the moment it arose, and before it had time to spread by children going to school, by clothing sent home by the laundress or dressmaker, and other ways. Our Lord Mayor last week, after receiving a deputation of medical men urging the notification of infective diseases, wisely suggested that a general Bill for Ireland should be sought, with power to have it applied to any town. Many British towns have adopted such a system—in most of them, the head of the family, as is fit, being the informant, getting, as is now the almost universal practice in case of death, the certificate from the medical man. However, the Aberdeen Town Council are promoting a Bill to give the doctors a fee of 2s. 6d. for each infective case reported, or to fine him 40s. for each such case he neglects to notify. But such a lapse on the doctor's part would be impossible to prove. In Edinburgh a like fee produced £600 in the first six months, and the public were most fully satisfied, although the health officer may call to verify the doctor's opinion, and no concealment of diseases has arisen as might have been dreaded. It is often urged that such notification might cause a house of business to be deserted; but it would be only announced to the sanitary authority, and at present if the case prove fatal it is known to them on the registration of death. What is now done in case of death would henceforth be done in every case of infective disease, namely, an offer of complete disinfection, which those who could afford it might do for themselves. If notification were only compulsory from houses containing more than one family or under £10 valuation, there would be safety, as the inmates of other dwellings ought to be able to protect themselves. The two most striking instances of the spread of contagion in Dublin, owing to want of

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notification, were the first case of cholera in 1866, at 22 City-quay, and several cases of small-pox in Malpas-street, in 1877—which being concealed spread these diseases so lamentably. There would be no difficulty in disease-registration in dispensaries, workhouses, and other institutions aided by the state, if an accurate and uniform classification were arranged, for want of which much labour at present is lost. The nomenclature of disease is being revised by the London College of Physicians and a committee from the United States, so that uniformity will be secured.

The cheapest and most practicable, and a very potent remedy for the low tone of health of our poorer people is the spread of a knowledge of the functions of the human body, and the means of keeping them in order. Ten years ago a humble effort of mine towards this object was recognized by the Commissioners of National Education, and a little manual circulated at half price among their teachers only. Every pupil, however, from ten or twelve years of age should be taught the subject, and if needed I will gladly try to make the book more suitable or withdraw it in favor of any other more intelligible. Our peasantry are closely bound in family affection, and will value information likely to protect those dear to them. That they break the laws of hygiene in regard to houses, food, and cleanliness, is sadly evident, and that they often learn no better in their foreign homes, also appears from even the facts to-night submitted to you. To those I may add that in American cities death-rates are in direct ratio to illiteracy, and illiteracy to Irish element of the population.

A letter from Professor Sayre of New York, dated the 16th of last month, tells me many facts about the Irish, Welsh, and German living in a vast colliery district in Pennsylvania. All started on like conditions; but the greatest watchfulness is needed to keep our countrymen in health. The air in their houses is constantly foul owing to closed doors, fixed windows, and general want of cleanliness and diphtheria, scarlatina, and measles prevail much more among their children, than among those of other nationalities. Since 1864, when the leaders of the medical profession memorialized Lord Granville, then President of Council, to promote the teaching of physiology and health, many efforts with that view have been made. One of the most effective was the publication of tracts by the Ladies Sanitary Association, of which Mrs. Cowper, now Lady Mount-Temple, was President.

There should be also means for acquiring special sanitary knowledge, for now it is most difficult to get men with any practical information to act as inspectors of nuisances and constructors of sewers in provincial districts. In many small American towns the people employ consulting engineers, to test in every particular, and frequently the soundness of their houses. The benefits which have ensued from a like system at Edinburgh were fully shown at the late Social Science Congress. The meeting of that body next year in Dublin will do much towards advancing and popularizing Sanitary Science. Such great authorities as Lords Derby, Shaftesbury, and Mount-Temple, Dr. Farr, Sir J. Simpson, Dr. Playfair, and Mr. Chadwick, have presided over its health section. Another great

educator, St. John's Ambulance Association, for giving first aid to the injured, has been lately established amongst us. Enlightenment in physiology and sanitary science will banish quackery and the belief in nostrums. Meanwhile, patent medicines should no longer be patronized by government, as much harm is done by their delusive nature—in some instances leading to no real effort for cure, and by their misappliance in others. No reputable medical man would seek profit by keeping secret anything for the good of his kind, and these remedies can be easily reproduced as analysis reveals their composition. This and other more offensive forms of quackery must pay in Ireland, as the country papers often fill a fourth of their space with their advertisements, and because our people are so ignorant of the structure of their bodies. As regards patent medicines they are ahead of us in Japan, where samples must be yearly sent for analysis. Last year 148,000 such were presented, and a large proportion were prohibited from sale, as useless by inertness or dangerous by ill-aimed or rather unaimed activity.

Towards the end of every parliamentary session, cabinet pronouncements, or finally the Queen's speech, confess to the abandonment of proposed subjects. If small things may be compared with great, I venture to say something of the kind has occurred to me. I anxiously thought over and annotated the circumstances of the few handicrafts which employ our people, the possible increase of those which workhouse occupants should follow, the want of saving habits in trades with inconstant employment, and the scantiness of warm clothing which Sir J. Lentaigne so fully urges in his last Industrial Schools Report. Poverty excuses every breach of health laws as regards dress; but how will the rich account for lapses of good sense, good taste, good economy, into which they are driven by the freaks of fashion? Then occurred to me the desirability of the extension of the Post Office Assurance system to the granting of weekly stipends in cases where the assured was sick or maimed. The comparative adoption of that Act in England and Ireland is not encouraging; for of the 6,237 insurances effected since 1865, 447 only have been in Ireland, where the inconveniences of the benefit societies are so universally felt. Incorrect entry of age, the wrongful assigning of Dublin as death place (a necessary item in some cases), the delay, trouble and expense of getting the money from English offices, such waste in salaries that a canvasser is paid fifteen shillings weekly if he brings in twenty-four penny subscriptions, and the shakiness which may be fairly judged of by the fact that over 10,000 friendly societies failed in the ten years 1856-65, call for the substitution of some sound system. Again, there is something to be said for, and more against what are called provident dispensaries, where those undefinable masses between the poor and the rich might be doctored. Lastly, the following lament from the registrar of Killieroran, Co. Galway might be the text for much discussion: "We had not one marriage the last six months, which shows the great depression of the times." But to touch these attractive subjects would be unreasonably to tax your patience.

If, however, time or ability have failed me in urging your atten-

tion to such topics, there are many other members most capable of dealing with them, and with improvements in sanitary statutes. This address would be said by many of my neighbours, and by some newspapers to have ignored a potent factor in the mortality of Dublin—namely, the chemical vapours from the eastern extremity of the city, if I did not state my individual opinion. I am bound to confess that during a ten years' residence near to, I never knew human health to be invaded, or vegetation (a more sensitive test) injured; moreover, the Government Chemical Inspectors have certified that there has been no unavoidable escape of gases, and two of these gases are in such degrees of atmospheric dilution most salutary—namely, chlorine and sulphurous acid. As has occurred before, the manufacturers may refuse police court jurisdiction, the loudest complainants to the Public Health Committee and editors, including some legally eminent, may refuse evidence for a Chancery Injunction, and as is very likely to occur, a jury may hesitate to suppress one of our few industries. For such reasons corporate funds have not been wasted in litigation, while the crying need of Dublin is unsupplied—namely, decent houses for the working-classes and the poor.

II.—*Work and the Workman: an Address to the Trades' Union Congress.* By J. K. Ingram, Esq. LL.D.

[Read, September, 1880.]

I BELIEVE I am indebted for the privilege of addressing you to-day to the impression produced on the minds of some of your leaders by a discourse which I delivered at a recent meeting of the British Association for the Advancement of Science. What I proposed to myself in that discourse was to show that certain prevailing ideas as to the constitution and method of Economic science required revision and amendment. Whilst recognizing the valuable work done by economists, and notably by Adam Smith, I endeavoured to show that many of them, by taking abstractions for realities, by drawing unverified deductions from *a priori* assumptions, and by giving to their conclusions, even when in a certain sense just, too absolute a character, missed the truth, and set up figments of their own imagination for laws of social life.

But the most important proposition I sought to establish was this—that the Economic phenomena of society cannot, in our researches, be isolated, except provisionally, from the rest,—its material aspect from its intellectual, moral, and political aspects,—without our being thus led into grave error. Or, to state the same thing in other words, I asserted that in the study of society, regarded as a subject of theoretic contemplation, the attempt to constitute the investigation of its Economic laws into a separate science is a philosophically vicious procedure, and that such inquiries must be