

THE ADDRESS

ON THE CONCLUSION OF THE

THIRD SESSION

OF

THE DUBLIN STATISTICAL SOCIETY:

DELIVERED BY

CAPTAIN THOMAS A. LARCOM, R. E.

ONE OF THE VICE-PRESIDENTS OF THE SOCIETY.

WITH THE

REPORT OF THE COUNCIL,

READ AT THE ANNUAL MEETING, 18TH JUNE, 1850.

DUBLIN:

HODGES & SMITH, GRAFTON-STREET,
BOOKSELLERS TO THE UNIVERSITY.

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DUBLIN STATISTICAL SOCIETY.

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THIS SOCIETY WAS ESTABLISHED IN NOVEMBER, 1847, FOR THE PURPOSE OF PROMOTING THE STUDY OF STATISTICAL AND ECONOMICAL SCIENCE. THE MEETINGS ARE HELD ON THE THIRD MONDAY IN EACH MONTH, FROM NOVEMBER TILL JUNE, INCLUSIVE, AT 8, P. M. THE BUSINESS IS TRANSACTED BY MEMBERS READING WRITTEN COMMUNICATIONS ON SUBJECTS OF STATISTICAL AND ECONOMICAL SCIENCE. NO COMMUNICATION IS READ UNLESS TWO MEMBERS OF THE COUNCIL CERTIFY THAT THEY CONSIDER IT IN ACCORDANCE WITH THE RULES AND OBJECTS OF THE SOCIETY. THE READING OF EACH PAPER, UNLESS BY EXPRESS PERMISSION OF THE COUNCIL PREVIOUSLY OBTAINED, IS LIMITED TO *half an hour*.

APPLICATIONS FOR LEAVE TO READ PAPERS, SHOULD BE MADE TO THE SECRETARIES AT LEAST *a week* PREVIOUSLY TO THE MEETING.

PROPOSALS OF CANDIDATE MEMBERS, SHOULD BE SENT TO THE SECRETARIES AT LEAST *a fortnight* PREVIOUSLY TO THE MEETING.

THE SUBSCRIPTION TO THE SOCIETY IS ONE POUND ENTRANCE, AND *ten shillings* PER ANNUM.

AT THE ANNUAL MEETING OF THE SOCIETY IN JUNE, 1850, THE FOLLOWING RESOLUTIONS WERE ADOPTED:—

1st.—That the number of members of the Society be for the present limited to two hundred.

2nd.—That whenever the number of vacancies in membership shall be less than the number of candidates for admission as members, the election of candidates shall be determined by the majority of votes; the chairman having, in case of equality, a casting vote.

Address on the Conclusion of the Third Session of the Dublin Statistical Society. Delivered by Captain Thomas A. Larcom, R.E.

GENTLEMEN,

It is usual and desirable that at the close of each session of our Society, when we pause for a time in the prosecution of our labours, we should look generally at the position we have attained, and, suspending for the evening the reading of new papers, consider the whole session as a page in our existence closed.

To what purpose have we met? What progress have we made? Are our labours proceeding in a right direction? May we from the past gather hope for the future? I think we may; we have ample ground for hope.

We have heard the Report of the Council, and the satisfactory condition which it announces. The number of our members has increased, and their active interest in the pursuits of the Society has been evinced, not only by the full attendances we have witnessed at our meetings, but by the number of papers we have received—a number greater than in any former year; and from the subjects of those papers, and the ability with which those subjects are treated, the public will not fail to appreciate the scope and value of our society.

The Barrington Lectures fulfil an important part in our general objects. It was early thought desirable that local societies should be affiliated with us in the prosecution of statistic inquiry, and such societies the Barrington Lectures will probably be the means of establishing. They carry to all parts of the country sound information on important points. The distinguished men who have accepted the office will diffuse insensibly an appetite for the information they convey; and we shall receive from the country, in return, a local support and local collection of facts, which will place our researches on a wider and firmer basis.

Our Society, like so many other of the advancing institutions of Dublin, originated in the University; thus showing that education terminates not with scholastic pursuits the studies of the individual, but that the love of knowledge implanted in the youth continues in the man. The corporate principle also continues, and leads to association for a common object. To the establishment of

a chair of Political Economy in the University of Dublin, then, we owe the germ of this Society; and by a rare good fortune, the same mind whose prescience perceived the importance of engrafting the study of Political Economy on the College course, is still amongst us to preside over our Society and direct our efforts.

We have named ourselves a "Statistical Society," and the collection and classification of facts are the objects conveyed by that name. But we are "established for the purpose of promoting the study of practical and economical science," to use the words of our opening programme; and in this is a higher destiny than mere collection, while it is sufficiently definite to furnish a clear and distinct direction to our labours. We have not excluded from our field the consideration of other countries, for that would be rather an exclusion of ourselves from their larger family. But we value the knowledge which the observation of other countries furnishes, and the facts we gather from them, chiefly for the light they throw upon our own affairs, and we use the information they afford for the benefit of Ireland.

It would be a high consideration to enter upon, but not without its benefit to the labours of a Society such as ours, if we were to agree upon a distinct view of the social mission—if I may use the expression—of the country to which its objects relate. This would, however, be a matter of much difficulty. It would involve opinion, and the result of the discussion would probably be a conviction that such is rather the end than the beginning of our labours—a result to be arrived at from the facts we collect, rather than taken as a guiding principle in collecting them; because our science is, at least in its statistical portion, one of observation; and even in its application to Political Economy, it is one to which fixed principles apply. We cannot err, however, in considering observations of nature and of *natural circumstances* as among our primary objects; next, the degree to which they are or are not *made available*; and then, their result upon the *social condition* of our community. If we thus begin at the beginning, with a train of reflections such as this, the statistical inquirer would, in fact, imagine himself in a new country, like Selkirk on his island. His first efforts would be to explore its valleys and its hills, its creeks and its bays, its geography, in a word, and its climate; next, its plants and animals, and all the powers and means which nature has afforded for the increase of its productions. By degrees population would increase, a division of labour would begin, and Political Economy, in its simplest form of catalectics or exchanges, would arise.

But we are far advanced beyond this simple condition, which we only glance at for the sake of reducing the subject to its elements. We are in an old country, in which the first objects of the statistic inquiry I have sketched out are attained. In the Ordnance Survey we have nearly all that geography can require. In regard to climate, also, ample materials are collected, or are in progress of collection. In the precincts of the College an observatory is de-

voted to the purpose, provided with the best instruments and appliances of modern science; and more than all, directed by a master mind, by Lloyd, an honour to his country, and who, in his distinguished position as President of the Royal Irish Academy, is now organising an extended class of observations on this subject, to be collected from all parts of Ireland. The collection and classification of these first facts of nature are, therefore, not dependent upon us; yet there still is much light to be thrown, even on them, by general observation. If we pass from these preliminary conditions to the equally elementary subjects of the earth's structure, its plants and animals, we also have the labors of naturalists to fall back upon. Our Societies of Geology, Zoology, of Natural History and others, have occupied this field, and require little aid from us. All these pursuits, which in their origin were sciences of observation, have now passed within the domain of exact science. To enlarge this domain, to afford the means of drawing within its circle more and more of the scattered families of nature's truths, by collecting and recording them with fidelity, are the objects of statistics, and furnish still an ample field for our career.

Among these families of facts, two great classes at once present themselves as of peculiar importance; I mean production and population. They are intimately connected with each other, as cause and effect, and are both dependent in a very great degree on the primary and natural subjects before adverted to. But a moral power is now for the first time applied to physical nature. Experiment succeeds to observation, and leaving simple nature, we approach phenomena which present far greater complication. For man is the lord of this scene, placed in the garden to dress it and keep it.

Man, the intelligence, finds means of changing the elements around him, for the purpose of increasing their useful productions. Even the natural food of the earth demands labour for its collection, and exists but to a limited extent. To increase and multiply himself, he must increase the means of his subsistence. He will destroy noxious animals, and domesticate those which are useful; then he will begin to combine their labour with his own, and agriculture will gradually arise.

We live in a country at present mainly agricultural; and even if it were not so, if agriculture were not to us, at present, the most important class of productive industry, it would still be earliest in order, even of scientific classification, as the type of primary manufacture—as that stage which deals with production in its first process, before the march of industry has begun to combine and supply its mechanism in the form more commonly called manufacture.

First, then, in the statistics of production stand those of agriculture.

Accordingly we find our island, like the rest of Europe and the world at the early dawn of history, supporting its inhabitants

by the chase or by the pasturage of native cattle, and by a scanty tillage performed with the rudest implements. A murrain or a feudal foray would consign a whole district to famine. Of its agriculture we have but slender records; perhaps none, but that rude implements have been found embedded in its bogs, and that traces of cultivation have been found on the ancient surface beneath them.

In times comparatively modern, a succession of writers have left accounts of the agricultural condition of Ireland. The names of Young, Curwen, and Wakefield will occur to every one, as preserving the impressions of travellers and acute observers on this subject. Perhaps none even of these great names are free from the too common tendency to generalise hastily; and from isolated cases, or the observations of peculiar places, to infer at once the state of the whole country in regard to agriculture. This tendency is peculiarly dangerous, when their statements or figures are used for comparison with the present times. It would not be safe, for example, because Arthur Young found in numerous cottages visited by him on a peculiar estate in Clare, that each family possessed a cow, to infer that such was the case in the whole of that county, and compare that circumstance with the present average, in regard to cattle, of the whole country; but it would be perfectly legitimate to compare it with the same estate.

In a note to the "Customs of Hy Fiachrach," one of the publications of the Archæological Society, it is said, on the authority of the Book of Lecan, that the ancient Irish brughaide, or farmer, was bound by the law to keep one hundred labourers and one hundred of each kind of domestic animals, as cows, horses, pigs, &c. If this were assumed as the condition of all the farmers of Hy Fiachrach in the fourteenth century, it is to be feared the present state of that district, now the barony of Tíreragh, in the county of Sligo, would appear to have retrograded very much indeed.

These are dangers to which statistical comparisons and conclusions are peculiarly liable, and from which it is scarcely possible to keep them wholly free.

So of peculiar crops, as wheat or flax, the relative extent to which they are cultivated in successive years is of importance; but these are influenced by so many collateral circumstances, as changes in laws, and relative demand and supply, that the inferences drawn from them must not be too widely extended.

So also in regard to manures. Their use in a particular soil, or under peculiar circumstances, may be advantageous in a greater or a lesser degree; but we require the aid of the chemist, as well as of the practical agriculturist, before we can institute comparisons dependent on them.

The recent publications on high farming, indeed, open to agriculture golden hopes for the future, by the judicious use of fertilizing substances, combined with improved implements and machinery, by the stall feeding of cattle, and the restoration to the

ground of the results of animal decomposition, with all the aid of chemistry and science. The annual exhibitions in this metropolis, and in our principal towns, show that Ireland is not likely to be behindhand in this onward march; and though labouring at this moment under prostration from recent calamity, she possesses very great advantages of nature. Sir R. Kane has shown, in his "Industrial Resources," p. 243, that the ordinary crops of Ireland, as given after much inquiry by Wakefield in 1812, were equal to those given by Professor Low for England in 1843, when agriculture had greatly advanced in that country; and the quantities in the Irish agricultural returns for the years 1847, 1848, and 1849, preserve a remarkable accordance with these averages; the figures being:—

	ENGLAND.	IRELAND.				
	Low. 1843.	Wakefield. 1812.	1847.	Agricultural Returns.		
			1848.	1849.		
Wheat.....	1,380lb. per acre	1,300	1,560	1,080	1,532	
Barley	1,872lb. „	1,820	1,971	1,859	1,950	
Oats	1,200lb. „	1,734	1,646	1,450	1,566	
Potatoes	17,901b. „	3,669	15,960	8,400	12,392	

In the year 1847, the grain crops were considered to be average crops, and they were considerably above those given for the sister country by Low. In wheat and barley they exhibit, indeed, an improvement on Wakefield's average of 1812. The year 1848 was a less favorable season, and the failure of the wheat crop of that year is especially apparent in these figures. The crops of 1849 were better than those of 1848, but below those of 1847.

In regard to the crop fourth in order, the potatoes, it is not consistent with common opinion, that the Irish yield per acre is so much less than the English as Wakefield makes it; but I need not say that the years 1847, 1848, and 1849 afford no comparison in regard to that crop.

The average crops given by Arthur Young are much higher than Wakefield's, and much higher than those furnished by the recent agricultural returns; but he states that the line he travelled was better than the medium of the kingdom. In truth, neither of them possessed sufficient data for general statements.

I may notice here, that the averages of produce given in the agricultural returns have been sometimes thought too high; but that impression is not borne out by Wakefield's averages, as I cannot doubt that Irish farming is improved since 1812 in a greater degree than those figures show.

We have heard much of late of proprietors restoring good tillage land to pasture, to avoid the necessity of employing labourers who may subsequently become chargeable as paupers. This is not likely to be extensive, or to continue, simply because it is unprofitable; and it has been urged that extra taxation should be laid on grass lands to counteract the tendency. But such lands are taxed enough already by the blindness or ignorance of their proprietors, who lessen their own profits by restoring the land to

its state of nature, reversing the praise given them by Campomanes, (quoted by Young), who, in 1777 said, in praise of the Royal Dublin Society, then recently established, that it had encouraged the extension of agriculture among the gentry, “en lugar que antes, vivian de ganados y pastos, como los Tartaros.”

Young thought the management of arable land in Ireland five centuries behind that of England. It has advanced, and is advancing—and it is to be hoped that the three fourths of a century which have elapsed since he wrote have lessened the difference, and that it will shortly disappear altogether, as in many districts it already has done; because there can be no doubt that the main wealth of Ireland must be produced by agriculture for some time to come.

When we look at the means for improving it which are now in operation, we cannot doubt that skill in farming will be rapidly diffused.

In this respect, indeed, it may literally be said the schoolmaster is abroad; for the agricultural instructors originated by the enlightened foresight of our great chief governor, address themselves to the adult—to the actual farmer upon his own field; while the schools of the Education Board are training the boy in the same career, and preparing him for the occupation of the man. When skill in farming is thus spread among the working farmers; when abundant capital is invested in the permanent improvement of the land, in the execution of those works which the tenant cannot accomplish; when unfettered industry is let loose,—we may indeed look forward with hope to the results which it will be the province of the statist to record.

Perhaps, indeed, on this subject of capital I may quote the words of Young, who says, “there is an impropriety in considering a man merely as the occupier of such a quantity of land, and that instead of land his capital should be the object of contemplation. Give a farmer of twenty acres in England no more capital than a farmer in Ireland, and I will venture to say he will be much poorer, for he would be utterly unable to go on at all.” In truth, his better soil and smaller wants enable the Irishman to subsist, and we have yet to witness the results which improved means and increased instruction will produce.

In regard to manures, too, we have now to watch the extensive effects of a valuable improvement, its more extensive application in a liquid form; in which form certain stercoraceous abominations, heretofore wasted, become of the highest value, and towns bid fair to return to the country the means of reproducing more and more of the food they receive from it. We may soon see Sewerage Companies and Deodorizing Companies make valuable profits to themselves, by doing us the most essential services, by performing that which we have hitherto been paying to have done.

The distribution of the surface has greatly changed since the dates of the great authorities I have quoted. We have no early data, indeed, of sufficient accuracy to justify any numerical compa-

ri-son of acres in the gross produce of the country, or of the extent of different crops; but there can be little doubt that the potato has been frequently the first reclamer, the first conqueror from the wilderness; and that the several varieties of grain crops have all increased, by pressing upon and driving it forward. It would not be foreign to our subject, but would lead me beyond the limits of an address, if I were to enter upon the question of large and small farms, or a consideration of the manner and degree in which agricultural production has been influenced by the tendency to divide the land into smaller and smaller holdings, which social and political circumstances have from time to time induced or opposed in Ireland. These are questions, however, in relation to which all facts are valuable, and within the scope of our Society.

There is one of our crops, the flax, which demands more than the passing word I can devote to it. Young calls it a "severe crop;" but our distinguished cotemporary, Sir Robert Kane, has shown for the first time the extent to which it is so; that the fibre, the valuable portion, derives its nourishment only from the ample fields of air and dews of heaven; and that the fields of earth have furnished to its growth only the casing and support. Accordingly, the water in which the plant is steeped contains this matter, which may again be restored. This fact was soon made available, and it is now five years since I saw at Market Hill the flax water, which before poisoned the fish in the streams, and offended the olfactories of travellers, collected by Mr. Blacker in tanks on the upper levels of his fields, to be again distributed in fertilizing streams over successive crops of the Italian rye-grass, for the feeding of stalled cattle on his tenant farms. But it is not in this, its agricultural point of view, I would dwell on the growth of flax, further than to state that in the opinion of able men it is not, if soil and circumstance be favourable, an exhausting crop. While yielding in direct profit perhaps £12 an acre, it is one of the most highly profitable which can be grown, and one to which our soil and climate are well suited. The link it forms in our statistic scale is, that it connects our agriculture with a valuable home manufacture. For I have now to touch upon the manufacturing branch of production.

There are scarcely any of the more considerable branches of manufacture which have not been at one time or other undertaken in Ireland. They have generally failed before the abundance of coal in the sister country. This fact brings into the field of statistic inquiry the whole question of the relative advantages to a country, and to the several parts of it, of primary and secondary manufacture. The wool and the flax of Ireland are of undoubted excellence as primary productions. Their manufacture into cloths and linens has not hitherto been carried to such an extent here as elsewhere; but the latter more especially has been, and is, a very considerable item in the industry of Ireland. The subject of textile manufactures has been discussed with his usual ability, by one of the most

distinguished members of our society, Dr. Cooke Taylor, of whose excellence and worth I am not now to speak—they are enshrined in public fame—but whose name I cannot even mention without a personal tribute to his ability and powers, and a sigh in feeling that in the full tide of health and strength he is passed from amongst us.

Dr. Taylor, after describing, in his usual lucid manner, the progress of the various branches of manufacture in England, and the circumstances which have led to their several locations in that country, mentions the failure of some in Ireland; and announces, as the one great principle on which it will depend whether they are likely to be successful, “economy in the cost of production;” the elements in estimating this being, 1st., facilities in obtaining the raw material, and 2nd, facilities in obtaining power, *i. e.*, coal or water, at the cheapest rate; and adds, “if a country can raise corn and cattle to purchase manufactured goods at a cheaper rate than it could manufacture those goods, the diversion of any portion of its labour from agriculture to manufactures would be a national injury instead of a national benefit.” These principles explain many of our failures, and the corollary is perfectly true; but the word country is indefinite, and there can be little doubt that a diffusion of the sites of manufacturing industry is more advantageous to the community at large, than their entire concentration in particular districts, even in the largest country, by furnishing more varied channels for the different classes of ability and mind which every where exist.

Ireland is sufficiently extensive, and sufficiently different in its productions, soil, and climate, to contain manufacturing as well as agricultural industry.

No one would traverse the central plains, and wish to see their verdant pastures and their fertile fields disfigured by smoke and steam; but no one can visit Belfast without a thrill of emotion at the results which energy and enterprise have already achieved there, or pass the falls of Killaloe, for example—a miniature Niagara—and pass on onwards to Limerick, a western port, without feeling that facility of access to the American cotton and ample power to work it are there combined.

Even in the flax and linen manufacture, however, Ireland appears to produce less than Scotland or England. In 1839, the factory inspectors stated there were,

	Mills.	Horse-power.	Persons Employed.
In England,	169	4,264	16,573
In Scotland,	183	4,845	17,897
In Ireland,	40	1,980	9,017

This date is long since passed, and there are no later accounts which give the amount of power employed in the flax manufacture; but I am indebted to Mr. Porter, of the Board of Trade, for the following return of the number of hands employed at as late a date as 1847, *viz.* :—

	Under 13 years old.	Between 13 and 18.	Above 18 years	Total.
England and Wales	1,588	6,902	11,350	19,840
Scotland	405	6,226	14,699	21,330
Ireland	36	6,693	10,359	17,088
	<hr/> 2,029	<hr/> 19,821	<hr/> 36,408	<hr/> 58,258

Showing a far greater increase in Ireland since 1839 than in either England or Scotland; greater, in fact, than in those two divisions of the country taken together.

On this point, Mr. Porter remarks upon the great importance which attaches to the progress of the linen manufacture, as a means for remedying in some degree the evils to which the cotton manufacture is unavoidably exposed. "A bad season in the southern states of America, or an outbreak among the slaves in those states, would consign to want some millions of our population. We are now partially suffering from the first of these causes, and although some attempts are being made to widen the market of supply, the palliative from that resource cannot be of any great effect, nor very speedily brought to bear. It is not impossible that a much more effectual remedy for this possible and great evil may be found in the extension of the linen manufacture."

Here, indeed, is a field of extension to Irish industry and enterprise, both agricultural and manufacturing. The valuable labours of the Flax Society are known to all of us, and their efforts to extend the cultivation of flax in the south of Ireland. It is understood that one of our great railway contractors, Mr. Dargan, is embarking in the culture of flax much of the capital realised by his industry in railway works. This is the true principle by which national wealth is increased, and such an example is worthy of imitation and applause. In passing from the culture of flax to the manufacture of linen, we want, it is true, the great element of power—an abundant supply of coal.

But the principal *water* power of Ireland is still almost entirely unused; and if, as quoted by Sir Robert Kane, the cambrie produced from 100 stones of flax, worth £75, is value for £2,625 when so manufactured, employing 216 people for a year, we need no argument in furtherance of our pursuit of the manufacture as well as the cultivation of flax; a cultivation which, even in the disastrous years 1847 and 1848, produced upwards of 2,000,000 stones, or 20,000 times the quantity which was the subject of the calculation quoted by Sir Robert. This question, however, in the long run, will be decided by the never failing test of relative profit to the capitalist, and the facts on which it will depend lie open to our inquiry.

The manufactures of silk and of cotton are in quite another category; for here we have to import the material. In Dublin we are all familiar with the beautiful fabrics which the industry and enterprise of our citizens produce, and the spirited exertions which some of our most ingenious and enlightened manufacturers

and traders have made, and are even now making, for the profitable extension of these manufactures.

Mineral products also claim our statistical attention. But in these, as indeed in all manufacture, fuel is a main point. We are deficient in bituminous coal; but the more abundant anthracite, and the great vegetable fields of bog deposit, have not yet been extensively applied as fuel to manufacturing purposes, of which both are susceptible, and to which both are in other countries applied. Indeed, under all disadvantages, we have iron foundries not only in Dublin, but in Belfast and Cork, in Drogheda, and even in Galway, whose productions are fully equal to those of England.

The degree and manner in which fiscal and legislative arrangements influence production, whether agricultural or manufacturing, afford a very wide extension to our inquiry. They have engaged the attention of several of our members, and formed the subject of some excellent communications to the Society. Protection to property and person, with unrestricted freedom to exertion—free scope to industry—"la carrière ouverte aux talens"—and we shall find that neither agriculture nor manufactures will flag in Ireland, where we have eight millions of inhabitants on a soil of surpassing fertility, and a country abundant in natural resources.

But of the eight million souls which form or did form our population, we have yet a word to say. This large portion of the human family has grown up in Ireland; their support and their advancement are in fact our problem, and to a great extent the end and object of our labours and inquiries. As a mere numerical question, population is one of great interest; and in the collateral inquiries connected with it, its magnitude and importance can scarcely be overrated.

Estimates of the population of these islands, inferred from tax returns and other documents, have been made from very early times; but as a scientific question, we are chiefly indebted to the works and inquiries of Mr. Malthus, to which we owe Mr. Abbott's act of 1801, under which the first official enumeration in these islands was made. The earliest in Ireland was in 1821, and they have been renewed decennially from that time. The machinery, however, for the collection of these returns is now so much more perfect; in this country the Constabulary, and in England the department of the Registrar General—that it is well worthy of consideration whether even an annual enumeration might not be desirable.

Two hundred years ago, in 1652, according to Sir W. Petty, the population of Ireland was only eight hundred and fifty thousand; in the middle of the last century, in 1754, as computed from the hearth tax, it amounted only to 2,372,634; and after another lapse of 100 years, it amounts to about 8,000,000. We have in these figures a most rapid increase; indeed, in some portions of the time, as from 1780 to 1805, it appears to have doubled in twenty-five years, the pure geometric ratio so often quoted; and there is no reason to doubt that the tendency, provided there were no obstruc-

tions, would be correctly measured by that ratio. But the obstructions are so numerous and so variable, that it is not easy to assign to them any exact measure. The first obstruction arises in the first necessary and first want—food; and it has been endeavoured to establish that food tends to increase only in an arithmetic ratio. But to the increase of food we have obstructions and facilities as variable and as numerous as to that of population itself; in varying health and strength; in the presence or absence of the influences and powers of education; in the developments of science and skill, with their combinations and applications; in government, protection, and peace. Famine presents to us the extreme of the obstruction caused by the want of food; pestilence, the extreme which want of health produces; and war and tumult, the combined result of ignorance and violence. But each of these is a compound expression—neither of them a simple cause.

Yet there can be no doubt that the obstruction to the geometric increase of population is susceptible of definition, at least in terms of the effect produced by it. Here the mathematician comes to our aid, and one of the most distinguished savans of our day, M. Quetelet, of Brussels, has thus expressed the law of population in regard to numbers:—“1°. La population tend a croitre selon une progression geometrique. 2°. La resistance, ou la somme des obstacles a son developpement, est, toutes choses egales d'ailleurs, comme le carrée de la vitesse avec laquelle la population tend a croitre.”

Whatever the exact ratio may be, it is no doubt quite clear that man cannot increase beyond the means of subsistence available to his support. Yet it is equally clear that if we were, as distinguished writers have proposed, to throw such obstructions in the way of the future increase of population as might be able to repress it, we should withdraw the chief stimulus to increase the means of subsistence. The country might have remained as it was in the days of Petty, but the mandate, ‘increase and multiply, and replenish the earth,’ would have been nugatory. But for the tendency of man to increase, the means of subsistence never would do so. Happily, in this case, action and reaction, though contrary, are not equal, for the reaction of want of subsistence constantly recedes before the tendency of man to increase. But we can seek earnestly for every means of elevating the condition of every class of our people; we can diffuse useful knowledge on practical subjects; remove the erroneous views which different classes take of their interests; early inculcate the principle of wages and profits; and teach them that the means of happiness and comfort are to a great extent in their own hands—that they can do more for themselves than others can do for them. We may be certain that the best instructed nation will also be the best conditioned, and that in which the most destitute class is at a minimum.

Our care, in short, should be, not to prevent the increase of our population, but to feed, clothe, and educate them when we have them; and, looking to the utility of our own society, our inquiries should, perhaps, be directed less to the number than to the condition of the people.

We have but slender means of measuring that condition in remote times with any accuracy.

Petty computes the population of Ireland immediately after the twenty years' misery of the great rebellion and its consequences, at only 850,000, the rent value of the land at £432,000, and its selling price at only £900,000; but he estimates that nearly 500,000 perished by famine, plague, and war, during that terrible period, and that before that time the population was 1,200,000; the selling value of the land £12,000,000; the stock, £3,000,000; and the "housing," £2,000,000.

If we take his rent value to compare with the same thing at the centennial periods I have used above, we shall have these figures in round numbers:—

	Persons	Valuation
1652 ..	850,000 ..	£432,000 Petty.
1754 ..	2,500,000 ..	5,000,000 Brown and Newenham.
1850 ..	8,000,000 ..	12,000,000 Poor Law Valuation.

If to the last is added the value of income and employment in trade, manufactures, and professions, perhaps £4,000,000 or £5,000,000, we shall find that with our eight millions of people we are not closer on subsistence in actual numbers, than we were a hundred years ago.

But it is still possible that though this be the general average, yet a larger class of the people may, from various causes, be in the lower condition now than at the former period; but for this, again, we are in want of accurate means of comparison. If we take the general statements of "wretched cabins," "starving tenantry," and the other phrases of travellers and writers, there is but little difference from Petty onwards to Young and Wakefield, and even the Devon Commission.

Petty, however, gives the value of stock in 1641 at £3,000,000 for 1,200,000 people, or £2 10s. for each. The census of 1841 values the stock at £20,000,000 for £8,000,000 of people, which, singularly enough, gives precisely the same figures. But here again we have only a great general average; we have no means of knowing the distribution of this stock among the different classes of the community.

Mr. M'Cullagh, writing in 1846, estimates the total agricultural produce of Ireland, in an average year, after deducting one-sixth for seed, at

Wheat	..	..	..	1,125,000	qrs.
Barley	..	..	..	1,116,667	"
Oats	..	..	..	10,410,667	"

The agricultural returns taken by the constabulary in the year 1847 and 1848 gave the following:—

	1847.			1848.
Wheat,	2,448,994	..	..	1,296,250.
Barley,	1,149,191	..	..	945,933.
Oats,	9,601,339	..	..	7,542,075.

These figures would afford on an average 1lb. 6oz., of cereal food to each individual daily, of the population of 1841.

But such is not the present population, and they afford no means of ascertaining its distribution among different classes of the community.

In the census of 1841 an attempt was made to classify the residences of the people ; the relative spread of rudimentary education, merely as shown by reading and writing ; and the distribution in the several provinces and counties of the live stock. The maps, which were shaded for the purpose of exhibiting these several classes of facts, showed also very clearly the concurrence of the three circumstances—ignorance, poverty, and bad house accommodation in the same places ; while the reverse — education, wealth, and comfort, were equally concurrent.

The general classification of the occupations of the people also agreed with the house accommodation, the figures being for the whole country :—

Vested means and professions	..	39,671
The direction of labour	..	480,657
Manual labour	..	952,411

And the house accommodation of the whole country :—

First class accommodation	..	67,224
Second class do.	..	321,925
Third and Fourth class	..	1,083,590

In the agricultural returns of 1848, a classification of the agricultural produce was made, according to the size of the farms on which it grew ; still, as it was not consumed by the respective growers, it fails us on the point we are now in search of ; and though the manner of living of the peasantry, farmers, manufacturers, and others, is familiar enough to us who live among them, we yet want authentic data by which to compare them at different times, or with similar classes in other countries ; and we fall back on wages, with all the uncertainty which attends the definition of that word.

To wages and prices, then, our attention should be directed, for exponents of physical condition ; to crime and vital statistics, for the results which it exercises over the advancement of the people ; and to religion, education, and laws, for the means of their progressive improvement. On this subject of prices we are indebted to our friend, Dr. Hancock, for an excellent paper and forms of tables, which, when brought into general use, will furnish us with information of the highest value.

The population increased $5\frac{1}{4}$ per cent. between 1831 and 1841, exclusive of emigration and other drains, which averaged 57,000 per annum. If we assume these proportions to have continued, we ought to have in 1851 a population amounting to 8,584,317. But during the last three years the emigration from Ireland to the colonies and United States, according to the recent report of the emigration commissioners, has averaged 200,000 per annum ; and

it does not appear to be materially diminishing by the returns of the first quarter of this year. If this should continue, and the emigration of the last five years of the current decade should thus exceed the average by 143,000 per annum, we shall have 715,000 to deduct from our computed number for emigration alone. These numbers are vague, yet their import and indications are clear enough. When, in addition to this, the diminished number of marriages is also taken into account, as well as the deaths either caused or hastened by famine, fever, and distress, we must be prepared to anticipate that a formidable chasm will be presented by the census of 1851.

In fact, our numbers can scarcely exceed, if they equal, those of 1831, viz., 7,767,401. Any estimate, however, of the population of Ireland in 1851, can rest only on the most vague conjecture. It has been thought, and apparently with good reason, that the census of 1821 was too low, and that of 1831 too high; so that the increase between those years was less than the 14 per cent. which their figures afford: and if 1831 was too high, the $5\frac{1}{4}$ increase which the census of 1841 gave on it, was less than the truth. In fact, the Census Commissioners of 1841 expressed an opinion, that the real increase during the ten years was little, if at all, less than 12 per cent.

We have, therefore, no sufficient data to compute what the population of 1851 would have been in ordinary circumstances, nor to frame any numerical estimate of the loss we have sustained during the late calamitous years. Still less can we anticipate the strange dislocation which the whole population will probably have undergone. Entire families will have passed away by emigration and death, and none remain to account for them; nay, populous townlands and districts may be without their old inhabitants, while towns will in some cases be more populous than before. The classification of ages will probably be in like manner anomalous, and present curves which will defy equation. We have no registry of marriages of the whole community; but in the limited class for which we do possess them, they have seriously diminished; from 9,344 in 1846 to 6,913 in 1847, the latest date to which the returns are published. Of births, we are without any general record; but the isolated statements and observations which have been made from time to time show great diminution.

These are not questions of mere curiosity or scientific interest; they are of deep and solemn import; and in that feeling the census of 1851 should be approached.

So far, however, as mere numbers are concerned, the chasm will speedily be filled; but the strong and active will be replaced by helpless infancy, and we shall have the new comers to support, instead of deriving benefit from their labour. This very circumstance, however, may be, in the end, the best hope of the country, because in proportion to the activity and care with which we educate and train them, their utility may be indefinitely advanced. And it should be our effort, by every means in our power, to im-

prove the condition of our community, so that future emigrations may not be characterised by the energy of despair, but conducted with the sober effort to improve his condition, which it is a proper part of man's nature to feel, and his duty to carry out.

Assuming, then, in the absence of precise information, that we start in 1851 with the population of 1831, let us look to the means now at our disposal, which did not then exist. We have lost the crops, much of the stock, and many of the people our crops and stock supported. But we have not lost the soil they grew upon, nor the means of producing crops as abundant as before the famine ; nay, since 1831, a million of acres have probably been added to our producing area, and at least six millions to the capital invested in them.

In the one item alone of improvement, that of field draining with tiles and other means, and the concurrent improvement of fences, enclosures, and farm accommodation of all kinds, we shall have by that time, through the spirited efforts of proprietors, with the aid of government loans, a sum of two millions invested in the land, and more than half that sum in straightening and deepening the larger water courses to form an outlet for this minor drainage, as well as to lay dry the swamps and callows on their banks.

This is in addition to the unobtrusive and gradual, but not less valuable results of private funds, expended by individuals from their own resources ; which, in the long period of twenty years, cannot be less than the public operations I have described, which will have occupied less than half the time.

Thus, we shall not only have more land to look to, but increased fertility and productive power in the greater part of it. The active interest of the gentry and superior farmers is evinced by the success of the Royal Agricultural Society, which, established in 1841, has now 106 branches, holding its annual meetings, and distributing rewards in all our principal towns in succession. I have no means of estimating the capital invested in trade and manufacture since that time ; but those who have witnessed the advancement of Belfast, for example, will be at no loss to conceive its great amount. There, new quays, a new river course, extensive warehouses and stores, with the increasing forest of tall chimneys, attest not only its own growth, but the growing wealth of its backing country.

Some ten millions invested in railways and other communications have improved internal intercourse. The registered tonnage of Irish vessels has increased from 128,469 in 1836, to 269,742 in 1848 ; employing about 15,000 men instead of 9000, the number in the former year. Steam navigation has increased in perhaps a greater ratio, having now 106 vessels, with a tonnage of 39,918.

The Ordnance Survey, which had scarcely commenced in 1831, is completed, and has been followed by a Geological Survey, now in rapid progress ; while the Industrial Museum, under our distinguished Vice-President, Sir R. Kane, is silently and gradually

accumulating knowledge, and the means of making knowledge available to all the useful purposes of practical improvement.

Since 1831, too, what strides has education made! The schools of the National Board alone, established since that time, numbered on their rolls in 1848 no less than 597,459, and they have been steadily pouring out numbers, yearly increasing. Infant education begins their course, the agricultural schools continue it into practical life, and a normal school at the same time instructs new school-masters. Within the last year, the Queen's Colleges have been opened, to close and crown the academic scale.

The ancient Alma Mater of most of those around us, Trinity College, has shared the onward movement. In her venerable halls new professorships have been established, new studies introduced. From under the instruction of Lloyd, the meteorological observers of all the colonial observatories have gone forth, and in Dublin their principal instruments have been made.

If we pass from the youth to the man, we find indications not to be mistaken, of the effect of this educational movement, equally full of promise for the future. In our own Society we see but one of the numerous offspring of intellectual activity in the young mind of Ireland. The Geological Society, the Zoological Society, the Natural History Society, with the Mechanics' Institute, and several others of a similar nature, are all of later date than 1831; while the elder brethren of this useful family—the Royal Irish Academy and Royal Dublin Society—have nobly kept their respective places. The Academy has not only published, since 1831, in its Transactions and Proceedings, a greater number of original papers than in the whole of its previous existence, but has erected and furnished its present library, and formed its unique museum. While the Academy thus fulfils the triune objects of its charter—science, literature, and antiquities—the Dublin Society has continued, and is continuing with increasing activity, its valuable labours in the field of practical utility. Its lectures, its library, its collections, its gardens are open and always accessible. Its exhibitions of manufactures, of which this year will witness the triennial renewal, have anticipated the grander combination of which London will be the scene in 1851. It has afforded the accommodation of its rooms to the meetings of other societies. We enjoy this hospitable shelter tonight. During the present year, schools of design have been established, and that of Dublin is incorporated with this old Society—affiliated, as it were, with the drawing schools it has so long maintained.

Nor is this activity confined to Dublin. In Belfast, in Limerick, in Cork, in Londonderry, and in other towns, societies like these have sprung into being.

There is a dark side, indeed, to this picture; it is for the future that the horizon glows with hope. The present is yet dreary. We cannot, in the temporary exultation of a favourable harvest, forget that its benefits will not immediately reach the desolation of Kiltrush, cultivate the abandoned fields, or obliterate the footsteps

of disease and death. But we may hope the worst is passed — a gloomy night may herald in a brighter day. We are not to despair, but exert ourselves to devote all our faculties and energies to the task. Every one of us, in his appointed station, must bend to the oar—every man must do his duty, and look in confidence for that blessing on our labours, which never fails those who seek it in honesty and truth.

REPORT OF THE COUNCIL

READ AT

THE ANNUAL MEETING, 5TH JUNE, 1850.

At the conclusion of the third session, the Council have much pleasure in presenting their annual report on the state and progress of the Society.

There have been seven meetings of the Society held during the past session, at which fifteen papers were read by eleven members. The annexed list of the subjects of the papers and of the names of the authors will best indicate the manner in which this important part of the Society's business has been transacted. From the state of the Society's funds, the Council have been enabled to publish every paper whose publication was desired by the author.

In their last annual report the Council stated that the Barrington Trust Fund for Lectures on Political Economy, had been placed by the Trustees for a time under their management. Under the arrangements adopted by the Council to carry out the trust, Dr. Lawson delivered a course of lectures to the Working Classes Association at Belfast, Professor Moffet to the Mechanics' Institute at Clonmel, Professor Denis Caulfield Heron to the Mechanics' Institute, Waterford, and Professor William Edward Hearne to the Mechanics' Institute, Dundalk. Besides these provincial lectures, three lectures were delivered to the Mechanics' Institute in Dublin by Messrs. Lawson, Heron, and Hearne; and one lecture will shortly be delivered by Professor Moffett to the Mutual Improvement Association in Dublin. It may also be added, that additional voluntary courses of lectures were delivered at Galway by Professor Moffett, and at Belturbet by Professor W. E. Hearne. The Council have had much reason to be satisfied with the manner in which the lecturers discharged their duties; and the trustees of the bequest, being pleased with the manner in which the lectures succeeded under the management of the Council, have placed under their control the arrangements for the distribution of the trust fund for the ensuing year.

The Council have accordingly proceeded to the selection of the lecturers, and have chosen Professor Thomas William Moffett, LL.B., of Queen's College, Galway; Professor William Edward

Hearne, LL.B., of Queen's College, Galway; John Jenkins, A.M., of Swansea; and Richard Hussey Walsh, A.B., of Trinity College, Dublin.

The Council have also selected from the applications received by them, the Mechanics' Institutes of Drogheda and Waterford, and the Literary Societies of Dungannon and Lurgan, as the bodies to whom the provincial courses of lectures will be given, and have entrusted the management of the Dublin course to the Mutual Improvement Association.

The Council have much pleasure in referring to the continued increase in the number of members of the Society, 53 having been elected during the past year, and the total number having now reached 196. They regret, however, to add that there has not been the same punctuality in the payment of subscriptions. For the purpose of ensuring punctuality of payment and economising the expenditure of the funds, which are principally spent in publishing and distributing the transactions of the Society, the Council recommend that the number of members be for the present limited to 200; with the understanding that, if the number of candidates for admission should continue to exceed the number of vacancies caused by the rejection of members for non-payment, the limit of the number of members shall be raised from time to time. By this means the funds of the society will be greatly economised, as there will be no expense incurred for non-paying members; nor will there be any outlay for printing additional copies of papers, until the increase of members is sufficient to warrant it. Should this suggestion be adopted, the Council will be able to increase the efficiency of the Society, without raising the present moderate subscription.

In conclusion, the Council are happy to state that they have a satisfactory account to give of the funds of the Society, which, when audited, will be published and sent to the members before the next meeting.

LIST OF PAPERS READ.

THIRD SESSION.

Papers marked with an asterisk () prefixed have been published by the Society.*

SUBJECT OF PAPERS.	AUTHOR.	DATE OF READING..
* The Over Population Fallacy Considered. Part I.	J. A. Lawson, LL.D.	November 19, 1849.
* On the Utility of making the Ordinance Survey the Basis of a General Register of Deeds and Judgments in Ireland.	Professor Hancock, LL.D.	Ditto
* The Over Population Fallacy Considered. Part II.	J. A. Lawson, LL.D.	December 17, 1849.
* On Absenteeism.	Hon. John P. Vereker.	Ditto
* On the Punishment of Death.	James Haughton, Esq.	January 23, 1850.
* On Irish Absenteeism.	Professor Hancock, LL.D.	Ditto
* Remarks on the Adjustment of Poor Rate Taxation in Ireland.	Sadleir Stoney, Esq.	February 18, 1850.
* On the Effects of the Usury Laws on the Trade of Lending Money amongst the Poor in Ireland.	Professor Hancock, LL.D.	Ditto
* Observations on the Economic Effects of Absenteeism in Ireland.	A. J. Maley, Esq.	March 18th, 1850.
* Thoughts on Reading the Hon. J. P. Vereker's Paper on Absenteeism.	Ebenezer Snackleton, Esq.	Ditto
* On the Transfer of Land, considered in relation to the Rights of Judgment Creditors.	R. W. Osborne, Esq.	Ditto
* On the Statistics of Crime.	James Haughton, Esq.	April 23, 1850.
Should the Tenant Cultivator of Land have the Property in the Improvements made by him ?	Professor D. C. Heron.	Ditto
On the Coincidence of Individual and General Interests.	Professor W. E. Hearne.	May 20, 1850.
On Human Labour and Wages.	Rev J. Ferrie.	Ditto