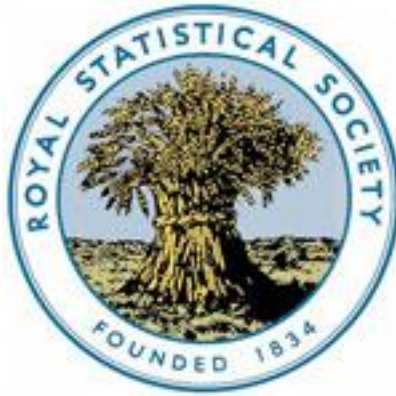


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The Opening Address of F. J. Mouat, M.D., F.R.C.S., LL.D., President of the Royal Statistical Society. Session 1891-92. Delivered 17th November, 1891

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# JOURNAL OF THE ROYAL STATISTICAL SOCIETY, DECEMBER, 1891.

*The OPENING ADDRESS of F. J. MOUAT, M.D., F.R.C.S., LL.D.,  
PRESIDENT of the ROYAL STATISTICAL SOCIETY. Session 1891-92.  
DELIVERED 17th November, 1891.*

## CONTENTS :

	PAGE		PAGE
1. Introduction .....	571	8. Congress of Hygiene and Demography .....	585
2. Brief Analysis of the Work of the past Session .....	572	9. The International Statistical Institute .....	590
3. Obituary Notices .....	575	10. The Internal Economy of the Society in the past Session ..	593
4. Inaugural Address of 1890 ....	577	11. Conclusion .....	594
5. External relations of the Society during the past Session and recess .....	580	12. The Royal Society in its rela- tions to Arts, Science, and Literature.....	594
6. The Imperial Institute .....	580	Professor Huxley's Dream ....	596
7. The Penitentiary Congress of St. Petersburg .....	583	Its realisation .....	596

1. I HAVE but a plain unvarnished tale to unfold on this, the second Introduction, occasion on which it has fallen to my lot to discharge the duty of addressing this Society as its President, on the opening of a new session of work. Statistics, whether as a science or a method in its application to the practical purposes for which it exists, fortunately does not lend itself to sensational statements or to surprises, nor when it is honestly used does it need rhetorical artifices to secure attention to its teachings.

These were defined on the foundation of our Society in 1834, Definition of the func- "to be the collection, arrangement, and pub-  
tions of the Society. "lication of facts to illustrate the conditions  
"and prospects of society." The definition of its scope was so well stated by the famous Master of Trinity, when President of the British Association of the year in which a statistical section was added to that body, that I am tempted to reproduce it now, since two attempts were made in the Demographic Section of the recent congress, one I am sorry to say with success, to introduce the thin edge of a wedge which brought it within the reach and range of one of the most controversial political questions of the

day, hence the need of directing special attention to it now to prevent its recurrence.

Speaking of the great scientific body over which he then presided, Professor Whewell stated "that all things comprehended " under the categories of space, time, and numbers properly belong " to our investigations, and all phenomena capable of being brought " under the semblance of a law are legitimate objects of our " inquiries. But there are many important branches of human " contemplation which come under none of these heads, being " separated from them by new elements, for they bear upon the " passions, feelings, and affections of our nature." He referred particularly to what he termed the dreary world of politics, which he regarded as a demon of discord altogether out of place in the calm and passionless field of philosophy and science.

Nevertheless, the employment of the numerical method to aid in formulating the laws which regulate all branches of science, moral and material, is not only perfectly legitimate but necessary to their right understanding, and to guide the legislature upon such social questions as the restriction of the hours of labour, the limitation of the interference of the State in the freedom of action of all who are able to judge for themselves as to the disposal of their time and talents in their appointed work, and similar questions of current politics, with which statistics have nothing further to do.

It was my intention to have devoted this address to a general review of statistical science in its various relations, having special reference to our own work, for there never was a time in which the misuse and abuse of figures from ignorance or design were more prevalent and mischievous than they are now; but, I found that the vast amount of information of more or less value which it would be necessary to consult and condense, rendered it impracticable, even were I qualified to undertake it.

It appears to me moreover to be more appropriate in an opening discourse to review our own past work, and to establish some continuity in it, with a view to ascertain how far we are in touch and harmony with the requirements of the time, in dealing, from a purely statistical standpoint, with such social, economic, and scientific matters as are of current interest or urgent application.

In fact our chief function seems to me to be, "to formulate the " past, to render the present fruitful, and to prepare the future."<sup>1</sup>

2. The first paper read in the past session was by Sir Charles Dilke, on the "Statistics of the Defence Expenditure of the Chief Military and Naval Powers," a subject of absorbing interest when all Europe is

<sup>1</sup> Andral.

armed to the teeth, and in a state of unquiet, which may, at any moment, break into open war. With the political aspects of the question, however, we, as a Society, have nothing to do. The paper attracted more attention on the continent than at home, and although it dealt only with a portion of a very great matter, it exhibited strongly the vast waste of men and money, both of which might be more profitably employed in productive industry than in an armed neutrality, nearly as costly as war itself.

The next communication was by one of the most competent of reliable authorities upon the operation of the Contagious Diseases Acts, Inspector-General Lawson. It showed in a manner which has not been shaken by the immediate discussion which it caused, or the consideration of the question in one of the sections of the more recent Hygienic Congress, the disastrous effects of the repeal of the Acts on the health of the army and navy at home.

The third contribution was by Dr. Newsholme, on the "Vital Statistics of the Peabody and other Labourers' and Artizans' Block Buildings," and is a valuable addition to our knowledge of one of the most difficult problems awaiting solution in relation to the poorer inhabitants of this vast metropolis, viz., the housing of the poor and working classes. It was carefully considered by special committees in the early history of our Society, Royal Commissions have reported on it, and private enterprise, stimulated by philanthropic motives, has endeavoured to diminish the evils of over crowding in insanitary surroundings. But the extent of the evil, and its constant increase from the rapid abnormal growth of this modern Babylon, have heretofore prevented the adoption of any radical means of relief, and will continue to do so, until efficient measures can be adopted to improve the general condition of those who are at the same time the causers of, and sufferers from the dangerous conditions in which they are compelled to live.

My own paper, on "Prison Ethics and Prison Labour," followed. It was written to meet an emergency, and constructed partly from materials collected for the Penitentiary Congress of 1890, at St. Petersburg, and in part from statistics of 302,000 prisoners, gathered by me from official sources, and heretofore contained in an unknown official report. Some of the most important points considered in it are still unsettled questions, in spite of the principles advocated by the most eminent jurists who have written on the subject.

The fifth subject of discussion was from the pen of Dr. Steele, the medical superintendent of Guy's Hospital, and considered the charitable aspects of medical relief in the metropolis, based upon an intimate acquaintance with the question from many years of personal supervision, and exceptional experience of its working in

one of the oldest and best managed institutions of its class in London. This contribution was of special value and interest, as embodying the most exact account we possess of an order of things which is now passing away, and being gradually adapted to the existing state of medicine both as a science and an art.

The next general meeting of the Society was occupied with a question of exceptional interest and importance in the study and practice of statistics, viz., "The Nature and Uses of Averages." It was treated with rare lucidity, and a thorough mastery of the subject, by one of the best exponents of the science—Dr. John Venn, of Cambridge. There is probably no branch of political arithmetic which is so little understood, and so constantly misapplied, as the calculation of averages—hence the value and importance of an illustration so perfect in its logic, so sound in its application, and so easily understood, as that with which the Society was favoured.

The last of the evening meetings of the session was devoted to the consideration of the general results of the recent census, as expounded by the Secretary appointed to conduct it. The public impatience to become acquainted with those results, was amply satisfied by Mr. Noel Humphreys in a manner, and with an authority possessed by no one else at that time, and with a clearness which left nothing to desire. The marvellous rapidity with which the press of this country obtains information regarding every question of public interest, or professes to do so, causes conjecture and erroneous information not unseldom to be accepted without too close a scrutiny of its accuracy, which is very generally in such circumstances a *quantité négligeable*. Hence those institutions, like our own, which can only publish accurate, well considered information, and at fixed periods, stand no chance in such a race. Its compensation consists, however, in its statements being of greater authority and of more permanent value than the fugitive pictures coloured by imagination, and too often intended to deceive.

The above brief analysis of the work of the past session appears to me to show clearly that we are in harmony with public feeling, and strictly fulfilling the ends of our existence.

Every one of the questions considered is still subject of inquiry and research, and the last word has not yet been said of any of them. The multiplication of journals, conducted with ability, and devoted to the consideration of every possible matter connected with art, science, economics, and sociology, in its widest sense, renders it impossible for any of our societies to attempt to keep pace with them. Hence, it is the more incumbent on us to cultivate rigorous regard to accuracy, and to indulge in no attempts to influence legislation by illegitimate means.

The papers promised for the present session afford good grounds for the continuance of our work in a right spirit, and to uphold the well established character of the Society as a scientific body. The only novelty in it is an attempt which I have ventured to make to enlist some of our eminent foreign associates in our work by contributing papers to our transactions.<sup>2</sup> Excellent examples of this are afforded by M. Levasseur's admirable paper on "*La Statistique Graphique*," in our Jubilee volume; the sparkling and witty account of "*La Statistique et ses Ennemis*," by M. de Foville, as well as the foreign press notices of the Jubilee, in French and German, contained in the same volume. These are precedents which it seems to me to be desirable to continue and follow up, now that in every scheme of secondary and higher education in all countries, the increased cultivation of modern languages is contained in their curricula.

3. Among the duties which have to be performed on our meeting again for work, is to record the losses which the Society has sustained during the previous session. An enumeration of those who have passed away is contained in the last annual report. Among them were four who merit special mention as statisticians, and as connected with this Society.

The severest loss of all to us was undoubtedly that of our late Dr. Graham Balfour. respected President, Dr. T. Graham Balfour. He not only contributed valuable papers to our transactions, all characterised by thoroughness and conscientious treatment, but he was in addition for many years an active member of our Council, served several times as Vice-President, and took a leading part in the discussion of those questions with which he was familiar. My knowledge of his work commenced long before I was personally acquainted with him, and dates from the period of my student-ship in the University of Edinburgh, where I followed him soon after he entered the army. At that time I became known to Dr. Henry Marshall, who had selected Dr. Balfour for the important work which occupied the most active period of his life, and was the foundation of his statistical reputation, on the ground of his peculiar fitness for it at that early age. Another of the officers selected by him was ordered on foreign service, and Dr. Marshall wished me to qualify to succeed him, an offer which I was unable to accept.

When I landed at Madras in 1840, I was the guest of the principal medical officer of that Presidency, who put into my

<sup>2</sup> The papers promised are by M. Troïnitsky of St. Petersburg, and Dr. Guillaume of Berne. That of Dr. Guillaume is entitled "*Le nouveau bulletin d'information des décès en Suisse*."

hands the returns and reports of the European troops in that command for the previous ten years. They were a mass of confusion, and with them he gave me the volumes then published of the statistics of the British army at home and abroad, to guide me in the detection of the errors which pervaded them, chiefly from the defective manner in which they were drawn up. I was much struck with the clearness, comprehensive nature, and mastery of figures of the work of Captain Tulloch and Dr. Balfour at a time when such matters were little studied, and with their aid I was able to recast and rearrange the Madras returns, and was permitted to publish the result in the "*Calcutta Journal of Natural History*." My paper attracted the attention of Colonel Sykes, by whom I was in consequence invited to join this Society a little later on, in 1847.

Dr. Balfour subsequently originated and prepared for several years the army statistical reports, which were rightly regarded as valuable records and models of accuracy and comprehensiveness.

I cannot conclude this brief notice of him in more fitting terms than those employed in a sketch of his life published immediately after his death, in which he was represented to have been a really able man, of excellent common sense, and remarkably sound judgment, possessed of a vigorous and highly cultivated intellect, sincere and honest in all things, endowed with a keen sense of humour, a firm friend, and an excellent colleague.

It has not been the practice to notice specially those who *Deaths of foreign Fellows.* have died among our distinguished Honorary Fellows, but I venture to think that, although they may not have taken an active part in our proceedings or communicated directly to our transactions, for reasons easy to understand, they undoubtedly took an interest in our work, and with many of them whom we have met at international gatherings friendships have been formed and much mutual esteem and regard arisen, which tend to produce an international amity that is of advantage to our pursuits, and may fairly be regarded as among the best, the most beneficial, and disinterested of peacemakers.

The best known and most distinguished amongst the departures *M. Anthony Beaujon.* of the last session was M. Anthony Beaujon, Professor of Political Economy and Statistics in the University of Amsterdam, and director of the Statistical Institute of that city, who died in December last in his thirty-seventh year. Although removed at so early an age, he had attained a high position as an economist of the advanced school, and had gained the prize offered by his government for the history of the Dutch fisheries, written for the Fishery Exhibition in London. In it he showed by carefully collected statistical evidence that the policy of Protection

against the competition of other nations was detrimental to themselves, and that on the removal of its fetters the Dutch fisheries, which were in a state of stagnation, at once began to revive. He wrote several treatises of merit and value, chiefly in Economics, on treaties of commerce and reciprocity, social mathematics, index numbers, the theory of prices, and poor relief in Holland. He was joint editor of the "Dutch Economist," and a general frequenter of demographic congresses and the International Statistical Institute, to which he attached a high value as bringing statisticians of different countries into personal contact, and thus enabling men of other schools of thought and action to compare, and contrast, and, if possible, to harmonise their methods.

Another of our Honorary Fellows was H.E. M. Alexandre de Vessélovsky, Councillor of State, Member of the Statistical Council, and editor of the "Economiste Russe," who died from over-work whilst engaged in bringing that scientific journal through the press. He was a member of the International Statistical Institute, to which he communicated important information respecting the corn trade of his country.

Unfortunately his journal, which appears to have been well edited, and is in our library, has ceased to exist since his death. It was conducted on a distinctly statistical basis, and the information it contained, evidently obtained from official sources, appeared to be accurate and valuable. He was personally much esteemed by all who knew him as an indefatigable, painstaking, conscientious worker.

The last of the Honorary Fellows of whom I wish to make special mention was H.E. Ahmed Véfik Pacha, who died in April of the present year, and has been described by one of our Fellows who knew him well, to have been among the most learned men of Turkey. The branches of European knowledge specially cultivated by him were statistics and historical research, and his writings were among the earliest which threw light upon the financial resources of the Turkish empire. His political career was one of great distinction, and as such men are very rare in any Eastern State, their memory deserves to be preserved in the records of any European institution with which they were associated, such as our Society and the Statistical Society of Paris, of both of which he was a member.

4. In connection with the branch of my address which deals with the occurrences of the past session, I cannot omit a reference to some of the matters to which I referred in my inaugural address of last year, as most of them are as much of present, as they were then of current or past interest.



The inquiry regarding hospitals which was then in progress, *Hospital inquiry.* and has since been completed, will doubtless be duly reported when the branch of the legislature by which it was undertaken again meets. A careful perusal of the evidence published leads me, however, to fear that as some of the most important factors objected to in the present management of these institutions were not specifically inquired into, such remedies as may be suggested will scarcely remove the evils complained of, if restricted, as they must be, to that evidence. I have always been of opinion that public inquiries into technical matters in which those elements are not directly represented, seldom or never carry conviction or remedy evils in a satisfactory manner.

The subject of the housing of the poor formed an interesting *Housing of the poor, and Contagious Diseases Acts.* branch of the work done in the Architectural Section of the late London congress, to which I have referred elsewhere; and so did that of the Contagious Diseases Acts in another section.

Regarding anthropometry I have more to say, as not only did *Anthropometry.* it form one of the most interesting features of the Demographic Section of the London congress, but a provision regarding it has been introduced into the most recent Act on the subject of crime and its punishment. I was not aware when I mentioned the matter last year, that a truly colossal essay of its application to ethnology, had been made in India by direction of the Government, upon an inquiry into the tribes and castes of Bengal. The results of this inquiry, so far as it had gone, were intended to throw light upon the question of the castes and occupations of the people of Bengal, which were considered by the present ruler of that province to have an important bearing upon the next census, and that to postpone it until that census had been taken would render it impossible to make it so complete as it could then be made. It was also stated that the "late census (of 1881) showed how rapidly the old aboriginal faiths are being effaced, and what progress is being made in the absorption of the primitive races in the great system of Hinduism. At the same time the opening of communications, the increase in the facilities for travel, and the spread of education, are tending to obliterate the land marks of the Hindu faith, to slacken the bonds of caste, and to provide occupations unknown to the ancient policy. There is nothing to be gained and much to be lost by postponing this important work. If it is not undertaken now a mass of information of unsurpassed interest will be lost to the world."<sup>3</sup>

It would naturally be supposed from this statement that this

<sup>3</sup> Report of Mr. H. H. Risley "On the Tribes and Castes of Bengal." Calcutta, 1891.

was the first inquiry instituted into a very great question, and yet that it was not so I will now show.

In my administration of the prison department of the Lower Provinces, I found so much difficulty in understanding the returns of the castes of prisoners in those provinces, that I determined to institute an inquiry of my own into the question, and accordingly, in 1867, I called upon the officers in charge of the prisons in my circle of superintendence, for a return of the castes and classes of the criminals in confinement in their several prisons, and the prevailing crimes of their several districts. This had become necessary from the extreme confusion that existed in the nomenclature and signification of the castes of the Hindus and sects of Mohammedans of the different districts of Bengal.

I received in reply a large amount of information, some of it exact and valuable, and much of it of little value. I printed the whole of the papers in the appendix to my official report of 1868, a copy of which is in our library, and on the table. I did not deem it advisable to suppress any portion of it on account of apparent inexactness, as every part afforded a land mark for future research. The whole question of caste was then, and is still, in a transition state in India. Near the great centres of government and of education its influence had become much weakened, and throughout the country it had been very gradually losing the semi-sacred character of its original institution, and becoming to a great extent an indication of the occupation rather than of the social status of an individual. It is a mistake, however, to suppose that among the great body of the people it has lost its hold, or could be safely disregarded in legislative enactments or in executive measures.<sup>4</sup>

The reason for the discontinuance of my inquiry is contained in the subjoined, extracted from my official report for 1867.<sup>5</sup> The

<sup>4</sup> *Journal of the Statistical Society*, vol. xxxv, pp. 80 and 81, 1864.

<sup>5</sup> "Administration Report of the Jails of Bengal," vol. i, pp. 66 and 67. 1870.

"Several matters of great general interest were considered and discussed during the past year, but, in obedience to the orders of the Government directing me to restrict the extent of my reports as much as possible, I refrain from referring to them.

"I venture, however, most respectfully, to remark that in so important and difficult a subject as that of prison discipline, in which there is still so much room for improvement, and on which the minds of men require instruction, it seems to me that the facts to be collected cannot be recorded in too much detail, provided they are carefully collected and honestly digested.

"I myself do not attach the smallest importance to any administrative reports in which the whole of the facts and figures on which conclusions are based, are not given.

"It should also, I submit, not be put out of sight that the prison reports of the Lower Provinces refer to the criminal classes of some 40 millions\* of people—the

\* No census had then been taken.

Government of Bengal of that time attached little importance to such inquiries, respecting which, had I been permitted to continue it, I had accumulated much additional information of value, sufficient to enable me to classify, arrange, and digest the material in my possession, and correct some of the errors contained in it.

I am indebted to the courtesy of Sir William Hunter for a perusal of Mr. Risley's report, but it came too late into my possession to permit of my studying it sufficiently closely to express an opinion upon his methods and their results. I, however, consider that it is an extremely valuable addition to our knowledge, of which the results will doubtless be tested more accurately when the figures of the late Imperial census of India are published, and that it exhibits in comparatively a new light the value of anthropometry as a scientific and accurate instrument of observation and record in ethnology.

I may mention here that the late M. Quetelet entrusted to Mr. Lawson Tait, of Birmingham, and myself, the preparation in English of a new edition of his work on Anthropometry, for which he engaged to furnish us with notes bringing the information contained in it up to date. His death shortly afterwards prevented the accomplishment of this design.

I mention all this, because the question will doubtless be referred to by Mr. Baines, in the paper which he has promised on the Imperial Census of India in 1891, which has recently been completed under his direction.

5. I will now proceed to consider the external relations of the External relations of the Society during the past session. Society with reference to the different bodies, in the proceedings of which it had a more or less direct interest by association with their work, either by delegation or otherwise.

6. I was present, as your representative, at the first general The Imperial Institute. meeting of the Imperial Institute, held in Marlborough House under the presidency of its founder, and our very ethnological position of many of whom is not yet determined. Every fact bearing on their social relations is consequently of unusual interest, and so little is known regarding them, that I have heretofore deemed it desirable to gather and publish as much as I could obtain which tended to throw light on the subject.

"It was for this reason that I procured the information contained in my last report regarding the castes and crimes of the people of the various districts of Lower Bengal.

"I am of opinion that the paper referred to will be a historical document of considerable value. Some years hence, when a correct census of the people has been taken. The bearings of caste are now undergoing a slow and silent but certain revolution that will in a few years change many of its most important relations.

"I placed the paper in my report because the prisons furnished its chief illustrations, and to the prison populations it had its chief applications.

"In deference, however, to the orders of the Government, I have abandoned all further inquiry into the matter."

Honorary President, H.R.H. the Prince of Wales. The lucid, interesting, and detailed history of its inception and institution, prepared and read by Sir Frederick Abel, led me to believe that hereafter, when fully organised, it will afford a valuable field for the collection of the statistics of the most important productive resources of the British empire, on a scientific as well as popular plan. Hence I venture to think that the very valuable uses it is intended to fulfil would be greatly increased in a desirable direction, by an extension of its basis in a manner which I suggested some years since in connection with the formation of a permanent museum illustrating the geography and ethnology of the British empire, to complete the cycle of sciences represented at South Kensington.

There is probably no branch of knowledge taught in our primary and secondary schools which stands more in need of proper means and methods of cultivation, and of which the popular ignorance is greater or more widespread than Geography. Of the people inhabiting the globe, in an ethnological sense, there is no pretence of giving any instruction whatever, whereas Commerce, which is the *raison d'être* of the Institute, would gain in every way by being directly associated with the sources and peoples from which and from whom its materials are gathered. This addition again would introduce a purely popular element and source of attraction, without which, now-a-days, all such institutions as that I refer to, can scarcely hope to obtain financial success.

In July, 1873, I submitted a proposal on the subject to the Royal Commissioners of 1851, which was favourably received, and in consequence of which a department of Ethnology was added to the Exhibition. Of this department I was appointed Chairman. Although it laboured under very great disadvantages, an interesting collection of illustrations was gathered together, and the thanks of the Commission were given to the Committee which worked and organised it.

The following extracts from my proposal will best exhibit its aim and objects.

“Speaking of the exhibitions as then conducted (1873), I remarked, that no person who had watched the gradual development of public taste, and the consequent increase of personal comfort in all that relates to the applications of art and science to the purposes of every day life, can have failed to perceive how well the exhibition of 1851 had done its work, and how vast a debt of gratitude all civilised nations owed to the illustrious and accomplished author of that landmark in the history of the present time, and indeed of all time.

“But, we live in an age of such rapid progress, restless move-

"ment, and constant craving for change, that most old landmarks  
"are being swept away, and that which attracted all the world  
"yesterday, to-day is already a thing of the past and neglected.

"How then are these fleeting feelings to be fixed, and the  
"fickle public to be brought back to some at least of the interest  
"which is palpably on the wane in such exhibitions of art and  
"industry as are now brought together annually at South  
"Kensington?

"One of the most likely means will, I think, be to add annually  
"to the exhibition, without reference to special branches of art and  
"industry, one or more departments or courts of a comprehensive  
"character, to illustrate the ethnography and geography of different  
"portions of the British empire.

"Of each the court should contain everything necessary to  
"show them as they are, viz., a raised map of their country on  
"a grand scale, images of types, life-sized, of the inhabitants in  
"their ordinary and gala costumes, samples of their domestic  
"utensils, weapons of war, boats and canoes, agricultural, musical,  
"and manufacturing instruments and implements, with samples of  
"their industries, models of their dwellings, &c.

"There should be also gathered together examples of the animal,  
"mineral, and vegetable products used by them or produced in  
"their countries, with views of some of their most striking places  
"and monuments.

"The materials thus collected I would not again disperse, but  
"place permanently at South Kensington to form the nucleus of  
"a museum of geography and ethnology, ultimately to embrace  
"the whole of the empire upon which the Sun never sets, in a  
"manner worthy of the object and of the nation.

"Were such a design once inaugurated, there are many persons  
"who would contribute examples of objects of interest connected  
"with each country illustrated; and if the varied and rich collec-  
"tions now scattered about were ultimately brought together under  
"one roof, it would be difficult to over-estimate the value and impor-  
"tance of the museum that would be formed."

Our exhibition report was duly submitted and approved, and the various illustrations were sent to South Kensington, some of considerable ethnological value and interest, but what ultimately became of them I have never heard. My own collection of the implements, &c., of the Andaman islanders was among them. I have mentioned this matter in some detail because the subject of the objects and uses of museums has recently been revived, I hope with better success than I was able to obtain from the numerous occasions on which I advocated them from 1854 to 1887.

In the former year I advised the formation in Calcutta of a

trade museum for all India,<sup>6</sup> of the expediency of which I was strongly impressed by a careful study some years previously of her productive resources, when, in obedience to a request from the Governor-General, Lord Auckland, in 1841, I prepared for him an analytical report on Dr. Forbes Royle's well known work on the subject.

As this Society was asked to name a representative to the governing body of the Institute, and the duty fell upon me as President for the time being, I consider that I am in order in drawing attention to the subject.

In continuing my parable of the external events of the past session in their relation to the Society, a prominent position must be given to the epidemic of congresses which prevailed, and more especially to those which had a more or less intimate relation to our own work.

I shall take them in the order of their occurrence, viz., the Penitentiary Congress of St. Petersburg, the Demographic Congress of London, and the International Statistical Institute, which was held at Vienna in September.

7. The first I was unable to attend for reasons on record, and as the *compte rendu* of its proceedings is not yet published, and I do not exactly know which of my contributions to it have been included in its proceedings,<sup>7</sup> I shall restrict my remarks to one of the practices of its procedure, regarding which I had some correspondence with its excellent general secretary, and which raises again the very important question of the *lingua franca* of the future, in international gatherings for scientific purposes.

One of the statutes of the Penitentiary Congress makes the employment of French compulsory, alike in relation to the papers submitted to, and the discussions of the congress, in whatever language the former may have been written. This is so entirely opposed to the prevailing practice of nearly every scientific international congress, and so unjust and injurious to those of other nations who have a claim to use their mother tongue on such occasions, as to demand notice with a view to its prevention in future. It is additionally out of place in Russia, of which the vernacular language is neither written nor spoken elsewhere, and where French, although more familiar, is as much a foreign tongue as either English, German, or Italian, all of which are as much

\* "Journal of the Society of Arts," February, 1872.

<sup>7</sup> Since the above was written, I have been furnished by my friend Dr. Guillaume with a copy of my paper on Prison Industry, printed in English in the Transactions, for which act of personal courtesy I return my best thanks. But it in no way affects my contention, which claims it as a right and not as a favour.

entitled to consideration on their merits as exponents of scientific truths of the highest order, as that which is at present employed exclusively in penitentiary congresses. The Russians themselves again are probably the best and most accomplished linguists in Europe, and practice no such restriction in any communications, oral or written, addressed to themselves.

A reference to congresses similar in character to that which I am referring to, will show more clearly my meaning than any general remarks. In the International Statistical Congress held in London in 1860, English and French were used indifferently, and each speech or report was printed in the language in which it was spoken or written. In reporting the proceedings in the transactions, those in French were accompanied by a marginal analysis in English, and *vice versâ*.

In the Prison Congress held in London, 1872, English and French were also used indiscriminately, and when required were translated immediately for the benefit of those who desired it, chiefly by myself during the first four days of the congress. German was also spoken and written, and treated in the same manner at the meetings.

This linguistic question has frequently been considered, and reference to it is contained in my report to this Society published in our *Journal* on the last Statistical Congress, that of Buda Pest, in 1876.

Our German and Italian friends can doubtless protect themselves if they care to do so. I am only personally concerned to show what claim English has to receive greater consideration than is usually given to it. It was scarcely used at all, indeed was conspicuous by its absence recently in Vienna.

English is the language of commerce, which binds together all civilised communities in stronger and more intimate unison than any other tongue; it is already spoken by considerably more than 100 millions of the most practical and advanced people in the world, those to whom the general introduction of steam navigation, the electric telegraph, cheap postage, and railways are chiefly due, and much of the terminology of which is taken from it. It possesses a literature "vast in its scope, vast in its internal worth, "and universal in its application to all the purposes of art, science, "social life, and government," as Lord Macaulay wrote, when advocating its use in the higher education of the natives of India, of which great section of the British empire all its laws, regulations, and public, as well as among educated natives, much of its private correspondence, are conducted. Persian occupied, in the early history of our connection with India, the place now filled with so much grace by French in Europe, as the court language

of those countries whose tongues are too much restricted to be used even partially elsewhere.

One of the greatest masters of our language said of it, in an address to the college of which I was at one time a student, that "English deserves the best cultivation we can bestow upon it, not only on account of its historical importance, but likewise of its intrinsic merit. We have no need to wince at the sneers which Alfieri, when indignant at the comparative neglect of his own sweet Italian, throws out at those languages which gain currency at the point of the bayonet and are propagated by the movements of fleets and armies! The diffusion of our language has followed in the train of that series of pacific triumphs which has carried civilisation to the furthest corners of the globe." What, again, says on the subject one whose testimony is of the highest value in this department of knowledge, the prince of German philologists, Jacob Grimm? Of it he wrote that the English language has the fullest right to be considered as a universal or world language, and that it is evidently designed by Providence to prevail over the remotest quarters of the world, as widely as the English nation itself; and he added that "for copiousness, for sense or logic, I may call it *vernunft*, and for conciseness of expression, there is no living language" (not even his own) "which can be justly placed by its side."

I only claim for it equal rights in all international scientific assemblies, at all events in their published records, and that it shall appear in its own dress instead of in the motley of translation which can never represent or reproduce the spirit and shades of meaning of the original. This, I hope, our friends of all future Prison Congresses will bear in mind in their procedure, for we can surely claim to have done as much in advocating and adopting humane and enlightened methods of dealing with crime as any other nation, and more than most of them.

8. With the Congress of Hygiene we have little to do or say on its purely technical aspects, and those interested in them have an opportunity of becoming acquainted with the views of an intelligent and friendly foreign critic in the number of the "*Revue d'Hygiène et de Police Sanitaire*," specially devoted to it.<sup>8</sup> Its faults, and they were many, are duly noticed, and unstinted praise is given where it was deemed to be deserved, as in the section of bacteriology. As a scientific gathering it attempted too much, and accomplished too little, as all such overgrown bodies in which the dilettanti element is predominant, usually do. They are nevertheless not without an

<sup>8</sup> "*Revue d'Hygiène et de Police Sanitaire*." Tome viii. Août et Septembre, 1891, Nos. 8 et 9.



element of usefulness of far more humble pretensions; but to multiply sub-divisions by way of rendering it a "big thing," is scarcely the way to recommend them to all who consider popularising with vulgarising a very questionable benefit at any time and in any circumstances. Regarding one of its chief blots, M. A. J. Martin says generally: "Is it necessary in such gatherings to formulate resolutions even when the discussions have not been carefully prepared in advance by well considered reports, of which the general purport can be carefully studied and mastered? He hoped to be pardoned for pronouncing them to be child's play. The votes on the greater part of these resolutions are determined by show of hands, without any serious objections being raised, although some of them are open to serious criticism. Everyone knows that they signify nothing, and that they bind neither those who vote nor those who allow them to be voted. The purpose of a scientific congress is to allow everyone to draw his own conclusions from the papers and discussions, but an assembly *sans mandat*, open to all comers, performs a puerile function in emitting views which are voted by habit rather than from conviction, and are without any practical sanction."

There were some flagrant, and more than one mischievous, example of this trifling with serious subjects, sufficient to rob any Congress of all claim to be regarded as a scientific reunion. M. Martin has also shown elsewhere why it was the least international of all the previous Hygienic Congresses, and how defective its organisation was in some important particulars.

The section devoted to demography is not so detailed, and is insufficient to be accepted as a *résumé* of the work done in what was termed a division, but was in reality a separate congress. Until the official report of this department is published, it will be premature to attempt to estimate its real value. I have already noticed one cardinal error in its proceedings.

But there was an annexe of the Hygienic Congress which *The Indian Meeting*. requires more notice than has yet been accorded to it, as I consider it to have been a questionable experiment, the reasons for which opinion I will explain at length, as it is one of those incautious proposals regarding India which can at best do little good, and might easily become mischievous in the hands of philanthropic faddists. This Indian meeting formed no part of the Hygienic Congress proper, and the resolution moved at its close I hold to be singularly injudicious. It is that, "looking at the interest shown by India in this congress, and considering the probability that other tropical countries and colonies would take a similar interest in future congresses, if a more permanent position were given to the consideration of subjects in which

“ they are specially interested, this meeting recommends to the permanent committee, that in future congresses a tropical section be formed with a view to a more full discussion of questions affecting the sanitation and the origin of disease in tropical climates.”

When it is considered that even if such a proposal were of the greatest use, the Hygienic Congresses will, probably for some years to come, be held in foreign capitals, most of which have no interest in India, or any tropical colony, and it would be difficult to get any Indians of rank, wealth, or influence, to attend them, however willing the people themselves might be to receive them, the proposal is so wildly impracticable, that its being carried unanimously, without discussion or consideration, is a type of the strange unwisdom of these quasi scientific gatherings. Moreover, as respects the Indian empire, such questions can be much better considered and discussed in India than in Europe, and in their technical aspects are better fitted for a medical congress than one of such heterogeneous materials as formed the bulk of the recent meeting in London. It should not be forgotten that all proposals to remedy insanitary conditions in native dwellings and households, if attempted to be carried into effect by authority, would of necessity come into injurious conflict with the customs of the country, many of which are ceremonial observances. We have recently heard of the commotion caused by the injudicious and hysterical discussion in this country of the age of consent, and the consequent pressure upon the government of India to take legislative action upon it.

Again, as respects the late congress, every one who has passed the best part of his life in India knows that in the sense implied it is a mere geographical expression, and that no such thing as public opinion exists there, except in the presidency towns, and even in them to a very limited extent. It is therefore open to question to proclaim that India has taken any real interest in the late congress, or that the subscriptions of a few natives of rank and wealth, can rightly be considered to represent such an opinion. The growing practice of appealing to native magnates for subscriptions or donations for objects in this country, in which they neither can nor do take any personal interest, is not unattended with political objections, which it is neither wise nor prudent to raise and encounter.

When I was engaged in raising the subscriptions in India for the Wellington College, a task entrusted to me by the Governor-General, a native ruler offered to send me an extremely munificent donation for that institution. I referred the matter at once to Lord Dalhousie, who informed me that it could not be accepted for political reasons which he explained, as it contained a danger to be carefully avoided, and which he could not permit to arise.

The principles regulating and underlying questions of sanitation, and the origin of diseases in tropical countries, in no way differ in kind and in the manner of their investigation in temperate and tropical climates, as those principles are, when founded upon a strictly scientific basis, universal in their application, and need no sections of even scientific congresses to throw light upon them. A very different procedure is, in my opinion, necessary to create and educate a genuine public feeling in such matters in different parts of India. Educated natives should be largely included in the consideration of all such questions in relation to their collateral issues, and to attempt to bring these all the way from India, even if those fit and worthy to be consulted were willing to come, would be as visionary and costly as it is inexpedient.

And, lastly, to relegate the decision of such a question as the formation of a tropical section to a body which has not a single representative of India upon it, carries with it its own condemnation, and fairly falls within Lord Melbourne's denunciation of meddling with such matters as are best left alone.

It is a mistake to suppose that such questions as appear to have been considered in this section have not secured sufficient attention in India, and even in some sections of this Congress, or that the officers serving in that country are not as well able to consider and advise upon them, as any to be found at home.

So long ago as 1868, when the supervision of public health was first intrusted to a specially selected staff, many officers believed to possess personal knowledge of the subject were consulted by the Government, myself among them, as to the proper functions of a public health department. In my report on the question I stated that I had directed the attention of the Government of Bengal to the subject of the health of towns and districts, and the heavy mortality among pilgrims to Pooree as long before as in 1856. The following extract from my letter on the subject (No. 9878, 1st March, 1856) shows the steps which I then recommended to be taken.

**"HEALTH OF TOWNS AND DISTRICTS.**—The last topic to which I shall at present advert, is the health of towns and districts, and particularly the reputed large mortality of pilgrims to Juggernaut.

"In many districts which I visited, cholera, fever, dysentery, and similar diseases were raging to a great extent. The apathy and ignorance of the people prevent their taking any measures to protect themselves, and no effort seems to be made by any one else to aid them.

"I cannot help thinking that much good might be done by magistrates, collectors, commissioners, and other officers of local rank and influence, who come into contact with men of rank and possessions in the country, if they would take the trouble of explaining to these people how much they might do, without expense, to assist their less fortunate countrymen in times of sickness and distress.

"The prejudices of the natives are doubtless strong and difficult to remove,

and the proverbial disregard of human life and suffering exhibited by all Asiatics, afford unpromising materials of philanthropy; yet, the more difficult the task, and the more impracticable the people, the greater should be the efforts exerted to benefit them, in spite of themselves.

"To employ the agency of the police, or of any of the subordinates attached to civil officers, would be to afford them additional pretexts for oppression and extortion.

"But in my long and intimate intercourse with natives of all classes, I have always found them anxious and willing to listen to the suggestions of European officers, when they did not interfere with their feelings and prejudices.

"A few simple sanitary suggestions printed in the vernacular languages, and put into the hands of the lower classes by the superiors known to and respected by them, would, I have not the smallest doubt, in time exert a large amount of beneficial influence, and probably ultimately succeed in dispelling the gross popular ignorance which is at present universal in all matters relating to health.

"For example, the moment a native [of Bengal] builds a hut, he digs a hole from which he takes the earth to raise the floor of his hut, and from which he obtains the material of its walls. This hole subsequently becomes the receptacle of the remains of food and various other matters, which gradually putrefy and dry up and form a focus of malaria which [in times of epidemics] decimates his household, and renders every one within the reach of its influence unhealthy.

"It would not be difficult to explain this so as to be intelligible to the most ignorant, and to suggest a remedy which in time would be adopted.

"They should be told instead of digging shallow pits to take all the earth they require for a whole village from a single spot, and thus to construct a clean wholesome tank, the blessings and uses of which all are able to appreciate and comprehend.

"Equally simple would it be to show them that weeds and rank vegetation are eminently unwholesome, while trees and well cultivated grounds are the reverse; that stagnant tanks breed pestilence, while pure water is healthy; that disease results from the percolation through the soil to their ill constructed wells of all effete animal and vegetable matters, while the water in wells properly protected by masonry to a sufficient depth is pure and pleasant; that small pox is a pestilence which can be eradicated by a less hazardous means of protection than that afforded by inoculation and yet by one equally little opposed to their religion; that pure air is necessary for health, while the practice of hermetically sealing their huts and smoking themselves in them is the reverse; with a thousand illustrations of a similar kind. They might, and probably would, at first be received with suspicion or indifference, but by being gradually familiarised and constantly urged, would at length become familiar and household words.

"No one should despair of such a result, when we reflect that it took very long to convince the poorer classes in Great Britain that poverty and filth were not necessarily inseparable; that the causes of disease were capable of being removed without interfering with their comforts and liberties; and that by a little care and attention on their own parts the average duration of their lives could be extended, and a thousand sources of physical enjoyment opened out to them of which they were before ignorant, and to which they were therefore indifferent or opposed.

"The revelations of sanitary commissions within the last twenty years show that the labouring classes in England, even in our own times, were in a state of greater discomfort and moral degradation in regard to their personal habits, than the poorest ryots in a Bengali hamlet.

"It may be said that all this is rather the province of the civil surgeon than of the commissioner or collector to urge; and so it is, but the position of the civil surgeon is not such as to enforce attention to his counsels on the part of the native population by whom he is surrounded. He is moreover a fixed and not a locomotive officer, and unfortunately in the majority of instances is new to the

country, unacquainted with the language, manners, and habits of the people, and without any inducement to make himself better acquainted with them.

"I observed that some stations which had formerly been healthy, are now the reverse. This is the case with Rajshahye, and has resulted from huts, rank vegetation and similar sources of deterioration having been allowed to arise in the very heart of the place.

"Mozufferpore again, from a change in the course of the river, threatens to become unhealthy; and I doubt if even the rare ability and energy of Dr. Simpson will be able to prevent it, unless his counsels receive the most entire support from the municipal authorities with whom he is associated, and of whom he is a mere appendage, instead of being, in a matter so purely professional, the ruling authority.

"Dinapore on the other hand, is a good example of what may be done to convert a jungle and a swamp into an abode of health. The energy and successful sanitary exertions of Mr. James Grant, Mr. Lautour [judge and magistrate], and other gentlemen interested in the station have altogether changed its aspect.

"There is still, however, much to be done even in Dinapore, to render it as healthy as it is capable of being made.

"There is much room in Bengal for a special sanitary commissioner, or public health officer, to aid and advise the local authorities in all questions relating to the public health."

I have reproduced this *in extenso*, because it is a mere sample of what was being done probably by many others who were doubtless consulted, as I was, on inland quarantine, the origin and progress of cholera, and many similar matters connected with public health.

If congresses of hygiene of moderate dimensions, and not possessed of a number of dilettanti members, were assembled from time to time in the great Presidency towns of India, and natives of rank and real influence associated in them with Europeans, lay and medical, far more good will be done, in ways that would not be repugnant to native feeling, than by attempts to attach them to even strictly scientific bodies at home, which cannot be expected to possess, and as a matter of fact are not possessors of, the knowledge of the collateral bearings of all such questions as are likely to come into injurious contact with native feeling in regulating questions of public health in their social bearings.

9. The meeting of the International Statistical Institute held at Vienna at the end of September was well attended. Its programme was, as seems to be the normal condition of these gatherings, greatly overcharged, but yet full of matter of interest and value, and its proceedings appeared to be satisfactory to most of those who attended them. It was a noteworthy meeting, as affording lessons for future guidance, but it is impossible to give even the briefest *résumé* of its proceedings, from the absence of the daily bulletins, stating *de die in diem* what had occurred in each section and general assembly, as was customary with the body whose representative and successor it is.

The incident which marks it as an exceptional and noteworthy

occasion was the vacation of the Presidentship as required by the Statutes; the selection of Chicago, in the United States, as the next place of meeting; and the election, by acclamation, of the President as an Honorary Member.

As respects the President the honour was well merited, for it would be difficult to over-estimate his devotion to the interests of an Institution committed to his charge at its birth, and continued to the present time, for it had been, as he himself said, with dignity and pathos, a passion with him, and those who know, as many of us do, his untiring attention to its affairs, and his scrupulous courtesy in all his communications regarding it, can fully understand what that signifies. The Institute is no longer in its infancy, and was a tender plant to rear, particularly at a time when international susceptibilities were somewhat strained, and there were shoals and quicksands ahead, which needed a skilful pilot to avoid the rocks which lay in its course to the calm sea, in which alone science can pursue a successful course.

Now that it is well established on a sure foundation, and is practically in its maturity, it seems to me to be desirable to take into consideration the advisability of reconsidering such of the provisions of the statutes as fetter its action, render its extension, should it be deemed expedient, a difficulty, and raise questions which had better be faced before they become possible causes of disunion. There has been recently a ruffle on the surface which it is prudent not to disregard. It was wisely said in one of the earliest references to the statutes formulated in London in 1885, that it was not advisable to make changes in matters of detail unless and until greater experience had been acquired in the working and management of such an Institution, and this sound and sensible counsel has, to a great extent, been judiciously observed. But the experience contemplated has, I think, now been obtained, and the transfer of the meeting of the Institute to the New World is an epoch in its history which affords an eligible opportunity of taking stock of our position. In any case, as the election of new members is effected by correspondence, the views of the members of the Institute can easily be ascertained in the same manner by a circular on the subject.

There is another matter on which I desire to say a few words, viz., the real origin and conception of the Institution, which has not yet been placed on public record, hence the misapprehension which appears to exist regarding it. It is contained in the unpublished records of our Society, and I can supply the missing link, for which I am indeed chiefly responsible. I hold it to be essential that the correct history of all institutions which have a great and important mission to fulfil, should be placed on permanent record

during the lives of those who aided in their creation, hence the very brief narrative I am about to present with that view.

When the permanent commission of the late Statistical Congress met in Paris in 1878, it was adjourned to Rome for the next assembling of the congress. I was then authorised by our Council to invite the Members to come to London on the next occasion of its inter-congressional meeting.

In the meantime the congress was put to death, how or why has never been properly made known, and the meeting did not take place.

Some of us thought that it would be a matter of great regret if no means could be discovered to continue the important work of the deceased congress—the child of Quetelet, and the step-son of our distinguished doyen, Dr. Engel.

I was at that time Foreign Secretary of our Society, and had a conference with Mr. Giffen, one of our leading members and secretaries, on the subject, when we agreed that a strictly private International Statistical Association, to consist entirely of statisticians, from which all official and pic-nicing character should be rigorously excluded, would afford the most suitable *modus vivendi* in the circumstances, and I accordingly obtained the sanction of our Council to invite the members of the Permanent Commission to assemble in London, to consider the best means of continuing the work of the late congress as an international institution.

I received replies to the proposal from several. Messrs. De Foville, Tisserand, Poznanski, Collucci Pasha, Kiaer, and Böckh accepted it unconditionally. Signor Bodio pointed out certain difficulties that many members would experience if an official character were not given to the institution, and that was substantially the view of Messrs. Keleti, Yvernès, Siedenbladh, and Körösi. M. Maurice Block did not think that the meeting in London would revive either the permanent commission or the congress, but would attend from the personal interest he took in our Society. Dr. Böhmert, although unable to act until the Imperial Government of Germany had declared its views, was imbued with friendly feelings to the project. All the gentlemen who replied expressed very friendly feelings towards our Society, and believed that the matter could not be in better hands. Some of the most important German members of the late congresses, however, made no sign, nor did M. Séménow. The late lamented Von Neumann Spallart<sup>9</sup> took up the question with great cordiality

<sup>9</sup> This excellent and most lamented friend of my own, as well as of all who knew him, has stated how the initiative taken by him in 1885 was suggested by the then President of our Statistical Society, Sir Rawson Rawson, as recorded in pp. 2, 3, and 4 of the "Bulletin de l'Institut International de Statistique," tome i, 1<sup>re</sup> and 2<sup>me</sup> livraison, année 1886.

A more detailed history is contained in our own Jubilee volume, but it of

subsequently, and, as we all know, formulated a scheme which, after consideration and amendment, chiefly in eliminating from it all trace of an official character, was adopted at our Jubilee meeting in 1885, and created the institute in its present form. The proposed meeting of the Permanent Commission in London never took place, in consequence of the abstentions, above mentioned, of our German friends, without whom it was felt that no such association could be formed.

All this I reported to our Council, in a communication which it ordered to be entered on its minutes *in extenso*, as the Council concurred in my opinion. This was accordingly done on the 12th of February, 1880, and the proposal was abandoned for the time, especially as M. Keleti stated that he intended to make another effort in the spring to get a Government settlement of the question. The matter, however, slept until our Jubilee meeting in 1885, when Professor von Neumann Spallart revived it in his proposed alternative schemes, of which a detailed report will be found in our Jubilee volume. The Jubilee of our Society presented exactly the occasion required for the entertainment of the proposal, from the numbers of foreign statisticians who attended; and, as soon as I became acquainted with the plan of the learned and much lamented Austrian professor and friend above named, I suppressed my own version, as I considered his to be much superior to it, and as I concurred in its views, with the exception of those points which were amended in committee.

To our Society then is due the real origin of the Institute, and I have now for the first time placed on public record the steps we took in the matter, before it became an accomplished fact. I had intended to have submitted my sketch scheme to the Statistical Society of Paris at its twenty-fifth anniversary, but was in the deepest affliction and in bad health at the time, and consequently unable to attend.

How life was given to it in 1885 is detailed in our Jubilee volume.

10. The most noteworthy events of the past session in the internal economy of the Society were a change in the *personnel* of its paid staff, an improved and different distribution of their duties, the placing of the valuable library in a better position for consultation and reference, and the institution of a Medal to reward original research and work in Statistics, as well as to encourage our younger members to devote themselves to their pursuit. The more prominent part now taken by Economics has been, I am afraid, detrimental to the necessity takes no note of what had occurred so long previously, during the Presidency of the Right Hon. G. Shaw-Lefevre, in 1878 and 1879.

The internal economy of the Society in the past session.



direct cultivation of the methods by which the laws regulating them are established; hence the necessity of such changes in our procedure as will maintain, so far as it is susceptible of sustainment, our position as one of the chief instruments in aiding the determination of all social, economic, political, and scientific questions to which the numerical method is needed for their solution.

The medal is to bear the name of Dr. Guy, as one of our greatest benefactors, as having for several years taken a leading part in our proceedings, as having contributed many papers of value to our transactions, and as having filled most of the offices connected with the control and management of an Institution which he held in high esteem, and which valued him in equal measure.

The medal has been executed by an artist of ability, and is a work of art of great merit.

11. All this brings me again to the consideration of a question Conclusion. which I raised in the history of the Statistical Society, which I was privileged to write in 1885, and with it I shall conclude my present address. This question was the federation of all the associations devoted to literature, science, and art throughout the British empire. After showing what I then believed and still consider to be the position of the Royal Society in relation to science, and its desire to be more than *primus inter pares* in the representation of science *in excelsis*, I said:—

12. “The true solution of the question seems to me to lie in the  
The Royal Society in its relations to arts, science, and literature. “confederation of the different literary, artistic, and scientific bodies [in the British empire] “in a single institute or academy, leaving to all, chartered and “unchartered, their existing organisations and procedure, their “special methods of research and record, and all the rights and “privileges they at present enjoy, but raising all of sufficient “scientific value and importance to the same level as the Royal “Society itself, the illustrious parent and predecessor of them all, “but no longer the sole arbiter of the intellectual pre-eminence “of the most distinguished members of the branches of art, “science, and literature, and sole fountain of honour for the blue “riband of knowledge, the Fellowship of the Royal Society.”

I sketched how I thought this could be done, and believed it to be perfectly practicable to connect in one unbroken chain the glorious traditions of the past, and the hope, vigour, intelligence, culture, and promise of the present, and to be the harbinger of a future, including all parts of the British empire in its embrace, and gathering in its fold all distinguished searchers after truth in the entire domain of human knowledge cultivated by the subjects of Her Most Gracious Majesty, in the Victorian era.

At the end of November in the same year, my paper having

been read in the previous June, the distinguished and learned President of the Royal Society noticed the matter in his address to that body. He said that the question had been raised both inside and outside the Society, and therefore required some notice.

He candidly admitted that in some particulars, such as the limitation of the annual elections to 15, by which the members desiring admission were greatly in excess of the number of the elected, and the whole number of members to what the Society was thus restricted, some 480 or 474, was equally below the requirements of the times, and probably excluded some whom the Society would welcome in its ranks had it the power to do so. But he did not consider that any immediate action was required, and very strongly deprecated any change in the principles on which the selections were then made, as likely to become a source of danger to the high standard maintained and necessary to maintain to constitute it *the* representative of science in the British empire, a position which he unhesitatingly claimed for it. That they regard themselves as the elect of science, and are so regarded by others, may be and is true, but in a more restricted sense than is claimed, as shown above. Of this premiss I am not prepared to admit the accuracy, inasmuch as it does not and cannot cover the whole ground, since such important branches of science as astronomy, chemistry, geology, geography, and botany have societies of their own, and two of them at least declined to be associated with the Royal Society in a position subordinate to it, and seceded from it in consequence. Again there are several more recent branches and subdivisions of science which have arisen in the present century which are not properly represented in the Royal Society, unless the occasional election of some man of eminence in any of those sciences can rightly be regarded as a representation in the commonly accepted meaning of that term.

It is not necessary however to consider the objections of the eminent professor further, as he evidently foresees that a change is impending and inevitable. He considers that the Royal Society should be in touch with the whole world of science, and constitute a microcosm answering to that macrocosm. He goes on to say that he directed attention to the matter, not for any immediate action, for he did not consider any present change desirable, but because it was a matter sure to come before them in a practical shape before many anniversaries went by, and whenever the time arrived another problem might possibly offer itself for solution.

This implied the proper recognition of all distinguished workers of science amongst English speaking subjects in every part of the globe, and he added the significant remark, that whatever may be the practicability of political federation, some sort of scientific federation should surely be practicable, as nothing is baser than

scientific chauvinism; but blood is thicker than water, and he concluded in terms which induce me to believe that he is at heart himself an advocate of reform.

He added that he had often ventured to dream that the Royal Society might associate itself in some special way with all English speaking men of science, and it might recognise their work in other ways than by electing to foreign fellowships, or awards of medals, which are open to everybody, and without imposing on them the responsibilities of the ordinary fellowship, whilst they must needs be deprived of a large part of its privileges.

This was spoken less than six years ago, and matters are now as they were then, and will be sixty years hence, except that, as time goes on, the difficulty will increase, unless some move in advance to realise Professor Huxley's dream, for which the scientific world, if it desires the change, is as much prepared now as it ever can or will be.

Federation of scientific associations appears to me to be more simple and feasible than political federation. The former is or ought to be passionless, whilst from the latter mere personal feeling and its concomitants, passion, prejudices, indisposition to change, fads of every variety, and the conservative instinct which is so strongly implanted in us as a people, have heretofore been the chief obstacles to union of any kind.

If the autonomy of all scientific institutions of sufficient importance to be associated with the Royal Society on equal terms, is strictly secured, and the limit of admission to the federation is as rigorously fixed, there can scarcely be any reasonable doubt that each branch of knowledge will select only its best and most distinguished representatives for the Senate of Science, and the only real difficulty in the realisation of Professor Huxley's dream be removed.

Why then should not he, the undisputed leader of science, and its realisation. greatest master of the purity and power of our language, happily still amongst us, take the lead in realising his own dream, and leave behind him, in, it is to be hoped, a distant future, a legacy of peace, goodwill, harmony, and rivalry only in the search for truth, which is the animating spirit of all science, by uniting in one great family the elect of those who pursue it in many paths, in a spirit of reverence and faith?

Our Society has, I venture to think, an indisputable claim to a place in that brotherhood, for in our inquiries, "where passion, interest, and prejudice do not interfere, the ultimate end must be some near obtainment of the noblest of all visions—a vision "namely of truth, pure, cloudless, and supreme."<sup>10</sup>

<sup>10</sup> Newmarch.