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BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Considerations adverse to the maintenance of Section F (Economic Science and Statistics), submitted by Mr. FRANCIS GALTON to the Committee appointed by the Council to consider and report on the possibility of excluding unscientific or otherwise unsuitable Papers and Discussions from the Sectional Proceedings of the Association.

THE following considerations are submitted by the writer to serve as a basis of discussion and to elicit arguments on the other side. The subject has many aspects and touches many interests, and has not as yet been sufficiently ventilated to justify a final judgment upon it. On these grounds, although his remarks will be found to be adverse to the continuance of the Section, the author reserves full freedom as to his own final opinion.

The chief reasons which appear to have prompted the establishment of the Section of Economic Science and Statistics, and which may still be alleged in favour of its maintenance, may be briefly stated as follows :—

1. The principles on which Statistics are founded are derived from the theory of probabilities, and have exercised, and will still exercise, the ingenuity of many generations of the ablest mathematicians.

2. The Section concerns itself with an important part of human knowledge which ought not to be ignored in a general association of scientific men.

3. Its subject-matter is less removed from the general interests of the public than that of any other of the Sections ; consequently it attracts large audiences of both sexes who desire to take part in the Association, but who have not the special knowledge that would enable them to appreciate the technical memoirs read in other Sections.

4. It affords an opportunity of enlisting into the service of the Association, as Presidents or Vice-Presidents of a Section, persons of local influence and of political importance.

A just idea of the character of the subjects now discussed in the Section may be obtained by collecting the titles of the memoirs read before it in three recent consecutive years, and sorting them, in so far as their great diversity admits, into cognate groups. The following is the result, the longer titles being in a few cases abbreviated :—

Papers read before Section F, Economic Science and Statistics,
in the years 1873, 1874, and 1875.

Economic law of Strikes.
Commercial Panics.
Science of Capital and Money.
Capital and Labour.
Laws affecting prices of Commodities and Labour ; and on Strikes and Lockouts.
Free Trade in Labour.
Poor Law and its effect on Thrift.
Cause of insolvency in Life-Insurance Companies.
Relation of banking reserve of Bank of England to current rate of interest.
Increase of price of certain necessities and its relation to rates of wages, &c.
Income-tax question.
Income fallacies and some of their consequences.
The future of the United States.

The privileges over Land wrongly called Property.
Agricultural Statistics and waste lands.
Ulster tenant right.

Progress of the Coal Question.

Statistics and observations of the National Debt from 1680.
Compilation of Statistics, illustrated by the Irish Census returns.
Government accounts, with further suggestions for establishing a Domesday book.

Indian railways and Indian finance.
Railways amalgamated in competing groups.

Postal Reform (two memoirs).

Reform in the work of the Medical Profession.

Confederated Homes and Cooperative housekeeping.
East Morley and Bradford Savings' bank.
Savings' bank in schools.

Principles of Penal Legislation.
Reformatory and Industrial School system : its evils and dangers.

Study of Education as a science.
Standard of National Education.
Scheme for the Technical Education of those interested in land.
Teaching of Hygiene in Government Schools.
Practical difficulties in working the Elementary Education Act (1870).
Industrial Schools.
Educational statistics of Bradford.
Prevailing mode of preparation for Competitive Examinations.
Economical aspects of endowments of Education and Original Research.
Economic use of Endowments.

Sanitary Legislation and Organization.
A new method of promoting the Sanification of our Cities.
Purity and impurity in the use and abuse of Water.
Reclamation and Sanification of the Pontine marshes.

Mortality of Adolescence.
Value of European life in India in its social, political, and economic aspects.
Death-rates of some health-resorts, and specially of Clifton.
Comparative mortality of Abstainers and non-Abstainers from alcoholic liquors.
Increase of Drunkenness among the working classes and the cause of it.

Workmen's Dwellings from a commercial standpoint.
 Benefit Building Societies.
 Building Societies and the Act of 1874.
 Working of the Building Societies' Act (1874).
 Dwellings for the Industrial Classes.
 Workmen's Dwellings.
 Statistics of free Public Libraries.
 Sericulture.
 Acclimatization of the Silkworm.
 Peat.
 Use and abuse of Peat.
 Shoddy trade.
 Bradford Building trade.
 Tanning of sole-leather in Bristol.
 Rise and progress of the Sugar trade in Bristol.
 Trade and Commerce of the City and Port of Bristol.
 Industrial position of Women as affected by their exclusion from the Suffrage.
 Domestic Service for Gentlewomen.
 Cost and propriety of removing to England the fallen obelisk of Alexandria.

Memoirs that might properly have been read in other Sections:—

Influence of the Sun-spot period upon the price of Corn (in A).
 Legislative protection to the Birds of Europe (in D).
 Influence of large centres of Population on Intellectual Manifestation (in D, Anthropological Department).
 Need of systematic observations on physical characteristics of Man in Britain (in D, Anthropological Department).

It will be observed that not a single memoir treats of the mathematical theory of Statistics, and it can hardly be doubted that if any such paper should be communicated to the Association, the proper place for it would be in Section A.

It must be freely conceded that Section F deals with numerous and important matters of human knowledge; but this is not of itself a title to the existence of the Section, because many other equally important matters, such as history, are by common consent inappropriate subjects for the British Association. Usage has drawn a strong distinction between knowledge in its generality and science, confining the latter in its strictest sense to precise measurements and definite laws, which lead by such exact processes of reasoning to their results, that all minds are obliged to accept the latter as true. It is not to be expected that these stringent conditions should be rigorously observed in every memoir submitted to a scientific meeting, but they must not be too largely violated; and we have to consider whether the subjects actually discussed in Section F do not depart so widely from the scientific ideal as to make them unsuitable for the British Association.

It would be a tedious and an ungrateful task to criticise in detail the multifarious topics embraced in the list we have given. But it is not necessary to undertake it, as it will be easy for men of science to judge for themselves by simply glancing over the list. It is believed that the general verdict of scientific men would be that few of the subjects treated of fall within the meaning of the word "scientific," and that the few of them that do would be wholly insufficient to occupy the time of the Section during the meeting. Even of these few, some, as shown in the last paragraph of the list, might have been communicated with equal or even greater propriety to

other Sections. It would therefore seem impossible to continue the Section, owing to the experienced difficulty of finding suitable materials, if all the unscientific papers were excluded.

It must be remarked that hardly any of the subjects in the above list, besides the few last named, would gain by being discussed by representatives of the special branches of science who are assembled at the British Association. This Section therefore occupies a peculiar position of isolation, being neither sufficiently scientific in itself, nor receiving help from the other Sections. In the first respect it may be alleged that the Anthropological Department and the Geographical Section are open to the same charge; but in the latter respect the case is very different. The leading Anthropologists are Physiologists, Geologists, or Geographers, and the proceedings of the Department are largely indebted to their special knowledge. Geography is apt to receive light from every department of science, and to give no less than it receives. This is not the case with Section F: it stands detached from all the other Sections, except in regard to a few subjects which might severally be handed over to one or other of them.

A notable evidence that its work is alien to that of the Association generally is to be gathered from the fact that in the 112 lectures that have been given since the system of two annual lectures to the Association generally was first established in 1842, not a single one has been on either a statistical or an economic subject. Other evidence to the same effect is the small number of reports on statistical or economic subjects that have proceeded from Committees appointed by the General Committee to make investigations, and who receive grants of money to defray the cost of making them. It appears that in the nine years 1867-75 inclusive* there have been upwards of 250 reports, referring to perhaps 220 different subjects. Only four of these appear to be strictly appropriate to Section F, namely:—Pressure of Taxation on real Property; Sewage; on arrangements connected with the approaching Census; and on combinations of Capital and Labour†.

It would appear from all this that the subjects commonly brought before Section F cannot be considered scientific in the sense of the word that is sanctioned by the usages of the British Association. Also that as the Section is isolated and avowedly attracts much more than its share of persons of both sexes who have had no scientific training, its discussions are apt to become even less scientific than they would otherwise have been. On the other hand, any public discredit which may be the result of its unscientific proceedings has to be borne by the whole Association.

Stress must also be laid on the fact that it is important to keep the number of Sections as small as possible; for difficulties have arisen in almost every place of meeting in finding accommodation for the number that exist, while, owing to the rapid extension of science, pressing claims arise from time to time for new Sections.

In conclusion, it must be recollected that the suppression of Section F would be little, if any, sensible hindrance to the progress of Economic Science and Statistics, because those subjects now find a more congenial and appropriate home in the Social Science Congress. The diversified topics included in the list of subjects already given can be distributed among its

* The year 1876 is omitted because the Report for that year had not been issued at the time when these remarks were written.

† The Metric Committee is excluded as being quite within the functions of Sections A, B, or G, and indeed of other Sections.

sections, each to the one most competent to discuss it. There will always be a larger gathering of experts in these subjects at the Social Science Congress than can ever be assembled at the British Association; and the discussions in the former are in consequence more likely to be instructive and useful.

Under these circumstances the question of the discontinuance of Section F appears to deserve the serious consideration of the Council.

FRANCIS GALTON.

June 1877.

Considerations, in the form of a Draft Report, submitted to Committee, favourable to the maintenance of Section F. By Dr. W. FARR.

The Committee has further inquired into the action of Section F, which has been for so many years an integral part of the British Association.

They have before them a complete list of the Presidents of the Section and of every paper read.

They find among the names of the Presidents—Babbage, Sandon (Earl of Harrowby), Sykes, Hallam, Wood (Lord Halifax), Earl Fitzwilliam, G. R. Porter, Lyttleton, Boileau, Whately, Heywood, Tooke, Houghton, Lord Stanley, Nassau Senior, Newmarch, Chadwick, Farr, Professor Rogers, Brown, Sir Stafford Northcote, Stanley Jevons, Lord Neaves, Professor Fawcett, W. E. Forster, M.P., and Sir George Campbell, many of whom delivered addresses of great interest and ability. Among the contributors of papers were, besides the presidents, many well-known statisticians and economists.

The papers may be classed under the head of *Vital Statistics* (so named first by Laplace) and of *Economic Science*, the first including papers on population, the laws of population, the laws of mortality, of disease, of crime, under different conditions, the laws of birth and of marriage—admitting of many direct practical applications to the public health and to the public weal. The facts with which this Section deals are of so much importance that they are observed and registered at great cost by every civilized government in the world; and the relations of the different orders of facts admitting of admeasurement have been discussed by Halley, Simpson, Price, Morgan, Milne, Bailey, Gompertz, Deparcieux, Brown, Duvillard, Laplace, Fourier, Quetelet, Poisson, and other men of science. In the year 1856 it was designated the Section of Economic Science and Statistics; and this brought within it the whole range of political economy as it was taught from the days of Adam Smith to Mill and Fawcett, Macleod and Rogers; but it is understood that the Section deals especially with the facts of property, produce, and values, admitting of scientific determination and numerical expression.

The Section is popular and well attended, as Mr. Babbage foresaw.

It no doubt attracts many who would not otherwise become members of the Association. The Association, in advance of some other scientific bodies,

admits members of both sexes, and the number of ladies has latterly ranged from 600 to 1058. Among the 856 papers read in this Section since its origin 21 have been by ladies, amongst others by Florence Nightingale, Mrs. Grey, and Mary Carpenter. A paper was read by Miss Becker on Difficulties in working the Elementary Education Act, 1870. A paper was also read at Bristol, by Mrs. Crawshaw, of South Wales, on Domestic Service for Gentlewomen, a question which she started, and in which she took much interest, but which it was supposed by many eminent members of the Association did not admit of scientific treatment.

There is no doubt that into this Section papers of little interest and relevance have occasionally found their way. The same, it could be easily shown, is unfortunately the case with other Sections; and in all should be guarded against, as they will be, by the rules the Council has now established.

A member of this Committee requested one of the Secretaries of the Statistical Society to bring the matter before the Council of that Society, and to favour him with their views as to the desirability of maintaining Statistics in its present connexion with the British Association. The following is their reply:—

“ STATISTICAL SOCIETY,
“ 13th July, 1877.

“ SIR,

“ At the Meeting of the Council of the Statistical Society held yesterday, your letter addressed to one of the Secretaries respecting the suggestion made in a Committee of the Council of the British Association to discontinue the Section of Economic Science and Statistics, and inviting the opinion of this Council thereon, was duly submitted for consideration.

“ In reply, we are directed to state, with reference to the first question, ‘ Do they think it desirable to maintain the Section F of the British Association?’

“ That this Council is firmly of opinion that it would be undesirable in the interests of science generally, as well as of the particular sciences dealt with in Section F, to discontinue the Section. According to the wording of the recommendation made to the Council of the British Association, those who made it would seem to be under the impression that the subjects of Section F are less ‘ purely scientific’ than those treated in the other branches of the Association. But this impression is evidently most unscientific; and that it exists goes to show the expediency of retaining, if possible, ‘ Economic Science and Statistics’ among the branches of the British Association. While so retained, Section F is a conspicuous advertisement to men of different sciences, and especially to those concerned with the various physical sciences, that other subjects of a far more complex and difficult character than those which are the subject-matter of these physical sciences, but regarding which scientific knowledge is equally indispensable to mankind, ought to be included in a general scientific programme. Were the subjects of Section F excluded, the domain of science, in the view of those assembling at the British Association, would appear far more restricted than it really is, and there would, in fact, be excluded from it a department of knowledge where the scientific method has already gained many of its most signal triumphs. It would seem to be a degradation of the British Association that the subjects of Section F (the whole subject of the life of man in communities), although there is a scientific order traceable in that life, should be excluded from notice.

"Although to all appearance there has been some want of consideration in the suggestion to the British Association, the origin of it has, no doubt, been a natural one, and, to a certain extent, the Council can sympathize with the motives of it. Many unscientific papers have been brought before Section F, and these have been reported and discussed to the neglect of really scientific papers on other subjects. Section F is probably exposed more than any other Section to the invasion of people interested in its subjects who have no scientific knowledge or training. Its subjects are also those of practical politics and philanthropy, and this brings to the discussion people who are politicians and philanthropists, but who are not men of science. For the same reason, the discussions on such subjects, whether scientific or not, are likely to be better reported than purely scientific discussions. Hence the irritation, which this Council can understand, among the members of a scientific body. But a sufficient remedy for what is evil in these tendencies would seem to be provided in the other recommendations of the Committee of the British Association, viz. to devise and apply rigorously most stringent rules against the admission of unscientific papers. In this work the Statistical Society would be disposed to cooperate, as it has cooperated in past times. There would probably still remain a proclivity to unscientific discussion, and the excessive reporting of unscientific discussions which could not be wholly removed; but, in exchange for this evil, it must always be remembered scientific men have a better opportunity in this Section than in any other of communicating some notion of scientific method and its value, and of the conclusions of scientific study, to the unscientific multitude. If the British Association is to exist for the 'advancement of science,' it cannot but fulfil its end in making politicians and philanthropists generally aware of the necessity of scientific method and knowledge in their favourite subjects.

"With regard to your second question, 'Do they see their way to suggest any practical means for maintaining the scientific position of statistical and economic science?' the Council of the Statistical Society has not thought it necessary to come to any resolution. It is practically answered by the answer to the first question. The more the Statistical Society does to effect the object for which it was founded, the better it will maintain the position of statistical and economic science, and the continuance of Section F in the discharge of its proper functions will answer the same end.

"We are, Sir,

"Your obedient Servants,

"R. GIFFIN,
"HAMMOND CHUBB, } Secretaries.

"Dr. Farr, F.R.S."

It has not been deemed right to consult all, but a letter from Mr. Chadwick, one of the past Presidents of Section F, is annexed. He points out the importance of joining to the sections of abstract science, which few can take part in, sections which open questions for discussion of local and popular interests, in order to realize the required funds at the provincial meetings, on which the success of the Association to some extent depends.

It has been brought under the notice of the Committee that no Reports on the progress of statistics have been published, and that no statist or economist has ever been elected President, or been called upon to deliver addresses. That is true; but several of our leading statesmen have been Presidents of

the Association; and it was quite right that the physical sciences which, as they involve simpler elements, have attained greater perfection, and have been cultivated by men of the highest order of scientific mind, should have the precedence; but the day will probably come when some distinguished statist, sociologist, or professor of political economy may be called upon by the Council to occupy the post of President. No one will probably deny that an address by John Stuart Mill, by Herbert Spencer, or by others that could be named in their day, would have been as interesting as some of the eloquent orations the Association has listened to.

There is one peculiarity about Section F apparent on the face of a table that has been submitted to us. While Section F has by its popularity brought in many members, it has taken out very little from the funds of the Association; for instance, the grants for statistical investigations have in the whole term of years been £1855, while £1,500 have been expended on the exploration of Kent's Cavern alone. There is another peculiarity of the Section that its inquiries touch nearly the interests and feelings of the working-classes, which the Association has ever considered. At Belfast the papers and discussions in Section F were so fortunate as to put a stop to a disastrous strike; and on this ground the fame of the British Association rang through all Ireland. There is besides the peculiarity about Section F that it deals with positive, observed, important facts; in other Sections this is not always so; and, finally, it never in any way offends the religious prejudices of the nation. The services of Section F in Ireland were a very striking set-off against the excitement produced by the bold utterances of the Physical and Biological Sections.

At this stage the Committee submits the facts, and leaves the Council to decide whether it is not desirable to watch the operation of the new regulations they have made for the conduct of the sectional business before they take any further steps affecting Section F or any of the other Sections.



Eighth Session of the International Statistical Congress.

The President and Council have thought it desirable, for the information of Fellows of the Society, to print the subjoined digest of the proposed program of the Eighth International Statistical Congress, to be opened at St. Petersburg, on 26th August, 1872. The digest has been kindly prepared by Dr. Mosat. His Excellency State Councilor Semenov, is the President of the Preparatory Commission.

The organizing committee of the Seventh Session of the International Statistical Congress decided that the Eighth Session should be held at St. Petersburg. This Session belonged properly to 1871, but the political state of Europe in that year defied the Imperial Government of Russia to adjourn it to 1872.

By an Imperial decree, bearing date the 24th of November, 1871, a preparatory commission was appointed to draw up a preliminary program of the proposed Congress, and the same decree created an organizing committee to make all the useful preparatory arrangements for the Eighth Session.

The Emperor Alexander II, as a special mark of the great interest taken by His Imperial Majesty in the labors of the Congress, has been graciously pleased to nominate His Imperial Highness the Grand Duke Constantine, President of the Council of the Empire and of the Imperial Societies of Geography and Archaeology, to be Honorary President of the Eighth Session.

The organizing committee, placed under the presidency of one of the ministers, has for Vice-presidents Prince Lobanov Rostovsky, General Grieg, and State Councilor Semenov, president of the preparatory commission. This committee constitutes the provisional committee of the Congress.

The members of this Commission were named, and to the president was delegated the duty of conducting the general correspondence with the statistical officers and the foreign members of the Congress.

The program of the coming Session was drawn up by the provisional committee, and preparatory to its submission to the organizing commission, is made known in all learned foreign papers proposing to take part in the Congress, to elicit the previous criticisms necessary to improve a distinctive international character on the work of the Congress.

The 26th of August was selected as the date of meeting of the Congress, in deference to the convenience of foreign members, and to secure sufficient time for preparation.

The number of Sections has been reduced to four, so as to secure the attendance of an official or other delegate at each Section, and, with a view further to impress a distinctive international character on the proceedings, a preliminary Congress (*Avant-Congrès*) will be held, to consider, sift, and analyze the matters to be submitted to the General Congress, to save time and trouble to the official delegates and the Presidents of the Sections.

The program of the preliminary Congress is subjoined:—

1. Organization of the International Congress.
2. Work to be undertaken by the Congress in international and comparative statistics.
3. Special propositions of some foreign members—such as that of Dr. Engel for an international geographical dictionary.

FIRST SECTION.—Statistics of Population, Methodology of Statistics.

1. Questions relating to numbering of the people (census).
 - a. Application of the method of personal registration.
 - b. Complementary census of those of a nation who are resident or travelling in foreign countries.
 - c. Nomenclature of professions.
2. Analysis of questions relating to population movements.
3. Questions relating to observations on the physical development of man.
4. Application of the geographic method to statistics.
5. Graphic methods in statistics.

SECOND SECTION.—Statistics of Industry.

6. General statistics of industry.
7. Statistics of mines and factories.

THIRD SECTION.—Statistics of Commerce and Postal Relations.

8. Statistics of external commerce.
9. Unification of the nomenclature and classification of goods carried by railways and by water communication.
10. Statistics of postal relations.

FOURTH SECTION.—Statistics of Criminal Justice (Crime).

11. Questions of criminal statistics.
 - a. Adoption of a comparative nomenclature of crimes, offences, and contraventions (illegal acts).
 - b. General classification of branches of the criminal law, according to their nature.
 - c. Causes judicaires (classification of judicial facts).
 - d. Mode of registering the data taken during a preliminary criminal inquiry (a trial before a magistrate prior to commitment).
 - e. Instruction criminelle.

This program is open to modification by the organizing committee, especially on the showing of foreign members, and it will be the duty of the Preliminary Congress to determine the questions which are not sufficiently advanced for the adoption of a definitive decision.

The Preliminary Congress will meet on 15th August, four days before the opening of the Session, which will sit for six days, exclusive of the time necessary for the projected visit of the members of the Congress to the Polytechnic Exhibition of Moscow.

*PRELIMINARY CONGRESS.**1. Organization of the International Congress.*

The Russian program, after enumerating the purposes for which the International Statistical Congress had been instituted, the nature and extent of the inquiries in which it had been engaged, and the degree to which it has been able to fulfill its objects, expresses an opinion that its practical value had not been equal to its proposed design, and that the Congress had rather aimed at an ideal standard than elaborated the means of realizing the conclusions at which it arrived.

The abstract tendency of the Congress towards pure science was not blamed, but it was deemed desirable to propose certain measures with a view to facilitate the application of, and to establish an international relation between the labors of the Congress and the working of the Statistical Institutions of different countries.

The Fifth Session, at Berlin, considered several motions for the reorganization of the International Congress. Dr. Engel thought the intervals between the Sessions too brief for giving practical effect to the decisions of the Congress, and advocated the institution of a permanent International Commission to watch over the general interests of statistics. This was strongly opposed, on the ground that it would change the character of the Congress, and deprive it of the patronage which the presence of official delegates from different Governments afforded to it, without imposing upon its decisions the obligatory character which would induce those Governments to accept them with the deference due to the formula of science.

Different circumstances prevented the examination of this question at the Sixth Congress, held at Florence, and it was discussed during the Seventh Session at the

Rome, when, after the consideration of several propositions and amendments on which no definite decision was arrived at, the further consideration of the matter was postponed to the present Session.

It is now proposed to hold an after conference on the conclusion of the Congress to utilize the discussions with a view to a practical issue; and to assemble the official delegates at least twice in the intervals of the Session, which may be prolonged from two to five years, to discuss questions of administrative statistics, and to secure a mutual understanding regarding them between the representatives of the official statistics of different countries.

2. Publication of International and Comparative Statistics.

If it be proposed to divide the preparation and publication of these statistics between twenty European States, each to undertake the elaboration of one or more branches of such statistics.

The mode of procedure in this matter has still to be settled—some advocating the working out of published statistics alone, others wishing to widen the inquiry, and, if necessary, to collect fresh materials for international purposes. The settlement of this question will be referred to the approaching Congress.

FIRST SECTION.—Statistics of Population and Methodology of Statistics.

In this Section will be discussed all questions relating to the census. The application of the method of individual registration, together with that of each bulletin containing all the facts relating to each household, will be specially considered in their applications to urban and rural populations.

The enumeration of the natives of a country travelling or residing in foreign States, will be recommended for general adoption.

An international nomenclature of professions, and of the classes which at present escape or evade enumeration, will also be submitted for consideration.

Questions relating to the analysis of population registers, and the means of recording movements of populations in the inter-census periods, will likewise be investigated.

To the important, extended, and difficult subject of the physical development of man at all ages and in all conditions, in sickness and in health, in public institutions and in private life following him, in fact, from the cradle to the grave, much time and attention will be devoted.

The question, in all its bearings, has not yet been fairly grasped as a whole, and if some leading principles can be formulated with exactness, a great step in advance will be taken.

The geographic and graphic methods of statistical investigation and records enter largely into the program, and an attempt will be made to harmonize the facts susceptible of illustration by those methods.

SECOND SECTION.—Statistics of Industry.

This Section will be devoted to the statistics of industry in general, and of mines and metallurgy in particular.

Under the former head will be considered textile industry, with the establishments, firms, and agencies employed in textile production, regarding all of which the information at present existing is said to be vague, scanty, and imperfect.

The following are suggested as desiderata in this branch of inquiry. The distinctive characters of industry on the grand scale in factories, scientific industry, and the industrial employment of handicraft artisans.

The classification and nomenclature of all such industries to be collected afresh, with special reference to the classifications proposed and adopted for industrial products, whether in official statistics, or in grant national and international exhibitions.

The technical elements of each class of industry to be specially treated, and in each case to be reduced to a uniform standard, and figures to be arranged in two groups, according as they are collected annually, or at periods more or less removed; and the economic, physical, and moral states of the working classes to be investigated in great detail.

The whole subject of mines and metallurgy, and of mineral substances not entering into these categories, but forming important branches of human industry, to be carefully reconsidered in all their relations, economic, scientific, and general, regarding which the considerations requiring special discussion and specific action are referred to in the program.

*THIRD SECTION.—Statistics of Commerce and Postal Relations.**8. Statistics of external commerce.*

The chief questions to be discussed in this branch of inquiry are, the nomenclature and classification of all articles of international traffic, and merchandise, whether carried by rail or by water communication, with special reference to the third and sixth resolutions of the last Congress, which will serve as introduction to the deliberations of the St. Petersburg Session. The first of these relates to the classification of imports, exports, and merchandise in transit, with a view to the introduction of simple and uniform tables, with suitable subdivisions to show the exact bearings and relations of international commerce. The last considers the best means of determining the value of imports and exports.

The principal points of interest and difficulty connected with this branch of international statistics, are explained and illustrated in the program; the general directions to be taken to arrive at a practical conclusion, are stated with force and clearness, and as respects the nomenclature of goods carried by rail and by water, in considerable detail. In regard to the former, the whole question of railway traffic is raised, as being now by far the most important agent in the movements of commerce.

This Section concludes as follows:—

“These considerations induce us to think that it will be very useful to submit for discussion by the Congress the question of the unification of the general and international nomenclature of merchandise in circulation.”

“We propose in consequence to essay a general nomenclature based on a comparative study of the classifications adopted to record the movements of merchandise by the administrations of the railways and the water communications of different countries, avoiding, as much as possible, mixed groups of goods, and including in the nomenclature only such classes of merchandise as play an important part by the extent of their circulation and the importance of their bearing on production, consumption, and international relations.”

10. Statistics of postal relations.

The extension of postal relations in all countries by the introduction of uniform low rates of charge, and the consequent penetration of correspondence into the remotest corners of every State, invest this subject with particular interest.

Comparative and international statistics have not yet been collected, and information is especially desired respecting the postal revenues and expenditures of all countries, which will consequently be submitted for discussion, to devise a uniform standard of record of all matters of interest, fiscal, commercial, and general, connected with the postal administration of different countries.

FOURTH SECTION.—Statistics of Criminal Justice.

In this Section the adoption of a comparative nomenclature of crimes, misdemeanours, and illegal acts (contraventions), is recommended, and will be submitted for consideration on the ground of its urgent necessity and non-elusiveness.

A general classification of branches of the criminal law, according to their nature; the collection of statistics of offences into crime, with the moral and repressive influence of penalties and prisons; and the best means of registering facts connected with the investigation of criminal acts, will all form subjects of special inquiry and discussion.