3 1761 05303203 3

UNIV. OF
TORONTO
LIBRARY

Digitized by the Internet Archive
in 2007 with funding from
Microsoft Corporation

http://www.archive.org/details/pigmentationsurv00tochuoft

11913

Aberdeen University
Studies : No. 36

Pigmentation Survey

of

School Children in Scotland

University of Aberdeen.

COMMITTEE ON PUBLICATIONS.

Convener: Professor JAMES W. H. TRAIL, F.R.S., Curator of the University Library.

UNIVERSITY STUDIES.

General Editor: P. J. ANDERSON, LL.B., Librarian to the University and Clerk of the General Council.

1900. No. 1.—*Roll of Alumni in Arts of the University and King's College of Aberdeen*, 1596-1860. Edited by P. J. Aoderson.
„ No. 2.—*Records of Old Aberdeen*, 1157-1891. A. M. Munro, F.S.A. Scot. Vol. I.
„ No. 3.—*Place Names of West Aberdeenshire.* James Macdonald, F.S.A. Scot.
1901. No. 4.—*The Family of Burnett of Leys.* George Burnett, LL.D., Lyon Kiog of Arms.
„ No. 5.—*Records of Invercauld*, 1547-1828. Rev. J. G. Michie, M.A.
1902. No. 6.—*Rectorial Addresses in the Universities of Aberdeen*, 1835-1900. P. J. Aoderson.
„ No. 7.—*The Albemarle Papers*, 1746-48. Professor C. S. Terry, M.A.
1903. No. 8.—*The House of Gordon.* J. M. Bulloch, M.A. Vol. I.
„ No. 9.—*Records of Elgin.* William Cramond, LL.D. Vol. I.
1904. No. 10.—*Avogadro and Dalton.* A. N. Meldrum, D.Sc.
„ No. 11.—*Records of the Sheriff Court of Aberdeenshire.* David Littlejohn, LL.D. Vol. I.
„ No. 12.—*Proceedings of the Anatomical and Anthropological Society*, 1902-04.
1905. No. 13.—*Report on Alcyonaria.* Professor J. Arthur Thomsoo, M.A., and others.
„ No. 14.—*Researches in Organic Chemistry.* Prof. F. R. Japp, F.R.S., and others.
„ No. 15.—*Meminisse Juvat: with Appendix of Alakeia.* Alexander Shewao, M.A.
„ No. 16.—*The Blackhalls of that Ilk and Barra.* Alexander Morison, M.D.
1906. No. 17.—*Records of the Scots Colleges.* Vol. I. P. J. Anderson.
„ No. 18.—*Roll of the Graduates of the University of Aberdeen*, 1860-1900. Colonel William Johnstoo, C.B., LL.D.
„ No. 19.—*Studies in the History and Development of the University of Aberdeen.* P. J. Anderson and others.
„ No. 20.—*Studies in the History and Art of the Eastern Provinces of the Roman Empire.* Professor Sir W. M. Ramsay, D.C.L., and pupila.
„ No. 21.—*Studies in Pathology.* William Bulloch, M.D., and others.
„ No. 22.—*Proceedings of the Anatomical and Anthropological Society*, 1904-06.
„ No. 23.—*Subject Catalogues of the Science Library and the Law Library.* P. J. Anderson.
„ No. 24.—*Records of the Sheriff Court of Aberdeenshire.* David Littlejohn, LL.D. Vol. II.
1907. No. 25.—*Studies on Alcyonarians and Antipatharians.* Prof. Thomson, M.A., and others.
„ No. 26.—*Surgical Instruments in Greek and Roman Times.* J. S. Milne, M.A., M.D.
„ No. 27.—*Records of the Sheriff Court of Aberdeenshire.* David Littlejohn, LL.D. Vol. III.
„ No. 28.—*Flosculi Graeci Borealcs.* Ser. II. Professor John Harrower, M.A.
„ No. 29.—*Record of the Quatercentenary*, 1906. P. J. Andersoo.
„ No. 30.—*The House of Gordon.* J. M. Bulloch, M.A. Vol. II.
1908. No. 31.—*The Miscellany of the New Spalding Club.* Vol. II.
„ No. 32.—*The Religious Teachers of Greece.* Jsmes Adsm, Litt.D. (Gifford Lectures, 1904-06).
„ No. 33.—*The Science and Philosophy of the Organism.* Haos Driesch, Ph.D. (Gifford Lecture, 1907).
„ No. 34.—*Proceedings of the Anatomical and Anthropological Society*, 1906-08.
„ No. 35.—*Records of Elgin.* Vol. II. Rev. Stephen Ree, B.D.
„ No. 36.—*Pigmentation Survey of School Children in Scotland.* J. F. Tocher, B.Sc.

Pigmentation Survey

of

School Children in Scotland

By

James Fowler Tocher, B.Sc., F.I.C.

101832
17 | 3 | 10

Aberdeen

Printed for the University

1908

GN
197
T7

CONTENTS.

	PAGE
The Report	1
Plates I. to XXVI.	108
Appendix to the Report	109

[*From Biometrika, Vol. VI. Nos. 2 and 3. September,* 1908.]

[*All Rights reserved.*]

PIGMENTATION SURVEY OF SCHOOL CHILDREN IN SCOTLAND.

COMMITTEE OF THE SURVEY.

Principal Sir WILLIAM TURNER, K.C.B., F.R.S., Chairman.
Professor R. W. REID, M.D., F.R.C.S.
J. GRAY, B.Sc.
J. F. TOCHER, B.Sc.

THE REPORT.

The accompanying Report which is published under the direction of the above Committee has been prepared by J. F. Tocher and consists of a Memoir on the reduced data and an Appendix. The memoir includes 72 tables, 19 diagrams and 78 maps. The Appendix contains 16 tables of classified data, and includes a list of teachers who made the Returns.

THE GRANTS.

Financial aid towards the Survey has to be acknowledged from the following sources:

			£	£
(1)	(α)	Grant by Royal Society in May 1902 .	200	
	(β)	„ „ „ 1904 .	100	
	(γ)	„ „ „ 1906 .	100	
		Total Grant by Royal Society . .	——	400
(2)		Grant by Carnegie Trust July 1908 . .		100
(3)		Donations by Lord Strathcona towards the payment of outlays on special sections of the work of analysis.		
(4)		The expense of printing the Appendix has been defrayed from a fund presented to this Journal in memory of W. F. R. Weldon.		

PIGMENTATION SURVEY OF SCHOOL CHILDREN IN SCOTLAND*.

By J. F. TOCHER, B.Sc.

CONTENTS.

MEMOIR.

Section		Page
1.	Introductory	3
2.	Arrangements prior to Organization	4
3.	Organization and Carrying out of the Survey	8
4.	Problems to be discussed	13
5.	Statistical Methods employed to determine Significant Differences	15
6.	Relative Local Differences geographically considered. Individual Differences in each Class	18
I.	Explanatory and Introductory	18
II.	Differences in Hair Colour: (α) Fair Hair; (β) Red Hair; (γ) Medium Hair; (δ) Dark Hair; (ϵ) Jet Black Hair	22
III.	Differences in Eye Colour: (α) Blue Eyes; (β) Light Eyes; (γ) Medium Eyes; (δ) Dark Eyes	29
7.	The General Resemblance of Local Populations to the General Population	34
I.	Introductory	34
II.	Hair Colour: (α) Divisions; (β) Counties; (γ) Districts	37
III.	Eye Colour: (α) Divisions; (β) Counties; (γ) Districts	44
8.	Class Segregation	47
I.	Interlocal Constants	47
II.	Significance of the Constants	48
9.	Peculiarities in the Distribution of Colour in Scotland	51
I.	General	51
II.	Red Hair	53
III.	Relationship between Gaelic speaking Population and Pigmentation	54
IV.	Relationships between Pigmentation, Density of Population, and Foreigners	57
V.	Relationship between Pigmentation and the Death Rate	59
VI.	The Probable Cause of the Association of the Medium or Brownhaired Class with Density of Population	60
VII.	Colour Classes which are associated geographically	66
VIII.	Relationships between Pigmentation and Physical and Mental Defects	69
10.	Degree of Resemblance between the Boy and Girl Population in each of the Colour Classes	70
11.	The Colour Characteristics of the Population of Greater Glasgow and Environs	72
I.	Introductory, with Tables of classified data	72

* An Appendix containing the actual data is issued as a supplement to this volume of *Biometrika*.

Section		Page
II.	Analysis of Glasgow Data	75
	(α) General Divergency in Colour	75
	(1) Hair Colour; (2) Eye Colour	75
	(β) Individual Classes.	79
	(1) Hair Colour; (2) Eye Colour	79
	(γ) General View	80
III.	Specific Elements in the Glasgow Population causing Divergency	82
	(α) Introductory; (β) Gaelic speaking Population of Glasgow; (γ) the Foreign Population of Glasgow; (δ) the Irish Population of Glasgow	82
IV.	Summary of Results of the Analysis of the Population of Glasgow	89
12.	Comparison with other Data	91
I.	Scottish Data: (α) East Aberdeenshire Children, 1896; (β) Scottish Adults; the Insane; (γ) Scottish Adults, Beddoe's observations	91
II.	Foreign Data: (α) the Actual Data; (β) Comments	93
III.	The Data bearing on Correlation and comparison with similar Data	95
	(α) General; (β) Comparisons	95
13.	Summary of Results	97

(1) *Introductory.*

In 1896, the writer organized and carried out a survey of the colour characters of the school population (14,561) of East Aberdeenshire*—the first local survey of its kind in the British Isles. The cooperation of the teachers in East Aberdeenshire was so hearty that the writer conceived the idea of making a survey of the colour characters of the whole of the school population of Scotland and, afterwards, of making a survey of the physical characters of the Scottish adult population. The chief obstacle in the way of carrying out both schemes was the want of funds. At Glasgow, for instance, the British Association approved of the idea but made no Grant†. In December, 1901, however, the writer applied to the Royal Society of London for a Grant of £200, naming a Scottish Committee prepared to see the pigmentation survey carried out. The promotion of the adult survey was meantime held in abeyance. The committee named was constituted and consisted of the following: Professor, now Principal Sir William Turner, K.C.B., F.R.S., chairman; Professor R. W. Reid, M.D., F.R.C.S.; J. Gray, B.Sc., and the writer. Under the direction of this committee, the Survey was made and this Report is published. The Grant applied for was given in May 1902, and the supplementary Grants of £100 each were given in 1904 and 1906. The Royal Society has thus supplied the sum of £400 to enable the Survey to be

* Tocher, "Ethnographical Survey of School Children in Buchan," *Trans. Buchan Field Club*, Vol. IV. pp. 137—152. Observations on the colour characters of over 2800 adults belonging to the same population had already been made by the writer and his assistants in 1895 at Mintlaw in Aberdeenshire. The results of an elementary analysis of these observations together with the results of a similar analysis of measurements of adults in various parts of Aberdeenshire are embodied in joint papers by J. Gray and the writer published in the following Journals:—*Jour. Anthrop. Inst.* Vol. xxx. 1900, pp. 104—124; *B. A. Report*, 1900, pp. 193—195; *B. A. Report*, 1904, p. 707; etc.

† A Committee was formed, but no work was done, and it was dissolved in 1903, on its being pointed out that a Scottish committee with a Grant from the Royal Society was carrying out the survey.

carried out and to further the statistical portion of the work. A Donation from Lord Strathcona in November 1906 of £100 towards anthropological research on adults and children in Scotland has also to be gratefully acknowledged. A portion (£21. 10*s.*) has been expended on the work of the present Survey. The Carnegie Trust in July 1908 made a Grant of £100 in aid of publication. The total Grants in aid up to the present date thus amount to £521. 10*s.* The total cost of the Survey including outlays, for aid in statistical, clerical and other work has been £860. 1*s.* 4*d.* The writer desires gratefully to acknowledge all the Grants made, and further the aid given by Sir William Turner and Professor Reid towards securing them. Without these Grants, the Survey would not have been made.

(2) *Arrangements prior to organization.*

Immediately on receiving the Royal Society Grant of £200 in May, 1902, the writer placed himself in communication with the officials of the Educational Institute of Scotland and other teachers throughout the country. The teachers were found to be distinctly sympathetic and interested in the scheme and, by the end of December, the writer was able to report to the Committee that there was every likelihood of the teachers consenting to make the necessary observations. On the 27th December, the General Committee of Management of the Educational Institute of Scotland passed a favourable resolution communicated to the author by the secretary of the Institute in the following terms:—

COATBRIDGE, 27*th Dec.* 1902.

DEAR SIR,

I have pleasure in informing you that the General Committee of Management at their meeting to-day adopted the following motion :—" That the General Committee of Management recommend the members of the Institute to afford whatever support it may be in their power to give towards the carrying out of a pigmentation survey of school children in Scotland."

Faithfully yours,

(Signed) JOHN LAURENCE,
Sec. of the Institute.

J. F. Tocher, Esq.
Peterhead.

Thus the cooperation of the teaching profession seemed assured and every confidence was felt that the returns would be made by the teachers without any delay, after receiving the necessary schedules and instructions.

The preparation of the schedules and instructions caused the Committee much anxiety. Quite 18 months were spent in discussing the best way to have the observations made. All the leading authorities were consulted as to the numbers of categories to be employed, the reproduction of suitable colour cards, and other means of aiding the teachers in their task of determining the precise colours involved. Although in many respects desirable, the limits of this memoir preclude the author from giving more than a general statement of the decision arrived at. At the outset both Sir William Turner and Professor Reid agreed that it would be most desirable to have either standard specimens of hair and artificial eyes

properly shaded or to have colour cards if such were possible. Dr Francis Galton, Dr A. C. Haddon, Professors Macalister, K. Pearson and D. J. Cunningham were each consulted and gave valuable suggestions. Artists and lithographers were employed to reproduce the shades of colour from a very complete set of specimens of hair of all shades and from specially prepared artificial eyes. A good deal of progress was made, but on attempting to determine the various classes by aid of colour cards giving either the limits or the means of the classes, the method failed to produce satisfactory results. It was found that, compared with the results obtained by the use of samples of natural hair, observers differed seriously in the classification of colour by this method. This appeared to be due to the comparative failure of the lithographers to reproduce the natural shades required. The writer devised the following analytical table (Table I.), the range of each class being

TABLE I.

Analytical Table for Hair Colours.

<table>
<tr><td rowspan="2">Red
The hair is red; either light red, bright red, or dark red
——
All colours which approach more to red than to brown or flaxen
——
Class 1.</td><td colspan="3">Not Red
The hair is not red. It is either fair, brown, or dark</td></tr>
<tr><td>Fair
The hair is fair, that is white, flaxen, or golden-yellow only
——
{A very light brown may be included here}
——
Class 2.</td><td colspan="2">Not Fair
The hair is not fair. It is brown (medium) or dark</td></tr>
<tr><td></td><td></td><td>Medium
The hair is chestnut brown, brownish, or is neither red, fair, nor dark
——
Class 3.</td><td>Dark
The hair is dark brown, or dark or black, but not jet black
Class 4.
——
Jet Black only
Class 5.</td></tr>
</table>

Note.—There are five divisions of hair colours recognised by the Committee.

No. 1.—The first includes all shades of red—light red, bright red, and sandy red, &c.

No. 2.—The second division includes all shades of fair, but great care must be taken *not* to include brown or medium hair. Flaxen, white, and golden yellow are the shades of fair recognised.

No. 3.—The third division includes chestnut brown, dull brown, and all shades, *not red fair, or dark.*

No. 4.—The fourth division, dark, includes very dark brown (looking black at a moderate distance), and black.

No. 5.—The fifth division is very uncommon. It is jet black.

TABLE I.—(*continued*).

Analytical Table for Eye Colours.

Pure Blue	Not Pure Blue		
The eyes are pure blue	The eyes are not pure blue. They are either brown, grey, very light blue, or mixed		
Deep blue or pure blue is Class 1.	Dark	Not Dark	
	The eyes are hazel brown, dark brown, or simply dark	The eyes are not brown. They are either grey or mixed. The grey eyes may be either very light blue, light grey, or simply grey. Light grey eyes belong to Class 2, while grey and mixed belong to Class 3	
{Light blue is Class 2.}	Class 4.	Light	Medium
		The eyes are light grey, very light blue, or bluish grey.	The eyes are neither light grey, very light blue, nor bluish grey, but are either grey, greenish, orange, very light hazel, or mixed. They belong to Class 3.
		Class 2.	

Note.—There are four classes or divisions of eyes.

No. 1.—The first is the pure blue or deep blue eye which cannot be mistaken.

No. 2.—The second includes light blue and light grey eyes.

No. 3.—The third includes all eyes not blue, light grey, or brown—they are called medium eyes, and include grey, green, orange, and other mixed shades.

No. 4.—The fourth class includes hazel brown, dark brown, and dark eyes generally. The fourth class is usually spoken of as dark, and the colour appears homogeneous in character at a distance of two feet, at which distance observations ought to be made.

In noting the colour of the eyes, first note whether they are blue or brown. If these are excluded note whether they are grey. If light grey, they are light eyes, if grey, they are medium eyes. If the eyes are neither blue (1), grey (3), nor brown (4) they are either light eyes (2) or medium eyes (3) [of which grey, previously mentioned, is only one shade]. Light eyes having been already excluded, they are medium or mixed eyes. *It is best to call up a few children at a time and judge by comparison.*

fully described. In making colour observations, each class in this table is determinable by the observer by a process of elimination of the other classes. The results obtained by the use of this table were now compared with the results obtained by using samples of hair, for hair colour, and of glass eyes, for eye colour and also with the results, for eye colour, obtained from observations on boys and girls selected as types of each class. It was found that both sets of figures closely agreed, and the results were therefore considered very satisfactory. The colour card method

Pigmentation Survey of School Children in Scotland.

Name of School..... *Parish*..... *County* ..... *District No.* .....

Name of Teacher..... *Date of Survey* .....

Sex of List of Children on this Sheet,..... (*Boys or Girls*).

*** *To save trouble to yourself, number the whole school consecutively from 1 onwards, after the names have been entered from Register and before noting the colours.*

INDICATE COLOUR OF HAIR AND EYES by an X in Corresponding Column

No.	AGE.	HAIR.					EYES				SURNAME.	RELATIONSHIPS. Use this column to indicate relationships in any manner you please if you do not use the next column. If you use the next column, ignore this one.
		Fair	Red	Med	Dark	Jet Black	Pure Blue	Light	Med	Dark		

was then reluctantly abandoned and the analytical table with broad classes was adopted as one likely to lead to the least error in determining the colour characters of the children. The accompanying schedule (Table II., much reduced size) was adopted by the Committee, the table (Table I.) with the description of the classes being printed on the back of each schedule.

The form of schedule and descriptive analytical table being definitely settled the author drew up a circular letter to the teachers which was adopted by the Committee*.

Mr John Gray's name was, with the consent of the Committee, associated with the writer's in the circular, as it had been mutually arranged that, after the data had been collected and summarised by the author, a joint paper should be prepared. This idea was departed from, at a later date, at Mr Gray's suggestion. With the Committee's approval he has, instead, written a short memoir illustrating his method of dealing with the observations grouped into districts, from Tables XI, XII., XIII. and XIV. of Appendix supplied to him by the writer who, on completing the statistical analysis, gladly supplied Mr Gray with the tables referred to†. District grouping suited the purpose he had in view of representing, by contour lines, the imaginary up and down steps by which he assumes one locality gradually to merge in intensity of colour into adjacent ones. The

7 *December* 1903.

*Dear Sir, or Madam,

As you may have seen reported, this Committee proposes, with your kind assistance, to carry out a survey of the colour characteristics of the school children of Scotland.

We beg to enclose the necessary form, and we should feel very much obliged if you will kindly record the names and colour characteristics of the children of your school for the use of the above Committee.

The purpose of this survey of the colour characteristics of the children is to collect statistics in order to elucidate racial characters, the laws of heredity, and the general problem of evolution.

The Committee suggests that, when convenient, the teacher in charge of each class should first have the names and ages, and if possible the relationships, of the children recorded in the sheets. After this has been completed, he or she could then, at convenient times, call up the children, five or six at a time, and note the colour of the hair and the colour of the eyes, following the instructions on the analytical table on the back of each observation sheet.

We may briefly mention that in carrying out this Survey, besides the private goodwill of hundreds of Teachers, the General Committee of Management of the Educational Institute of Scotland support the idea. The following resolution of the General Committee was adopted in December last :—

"That the G.C.M. recommend the Members of the Institute to afford whatever support it may be in their power to give towards the carrying out of a Pigmentation Survey of School Children in Scotland."

The Royal Society is aiding the survey by a grant from the Government Funds, while the results, besides being published in scientific journals, will be printed as a separate memoir. This memoir will contain a complete list of the contributing teachers and of the statistics forwarded from each school. We have provided for the survey of over 750,000 children, which is the estimated number in Scotland.

We sincerely trust you will, without inconvenience to yourself, supply the Committee early with the particulars asked, and do what you have in your power to assist in a survey which has such a high bearing on the racial characters of the Scottish people.

† These tables as supplied to Mr Gray do not, of course, contain the figures from the late Returns.

reader is referred to Mr Gray's paper for details as to this system of representation of intensity of colour. The author has to acknowledge his indebtedness to Mr Gray for the help he gave in the construction of the schedule and to thank him cordially for such cooperation as he was able to give otherwise. Owing to his residence in London, Mr Gray was unable to take part either in the actual work of organizing and carrying out of the survey, or in the laborious and prolonged statistical analysis after the survey had been completed. The writer, however, received great assistance from his own clerical staff, the members of which worked frequently at high pressure to a late hour, in order to have the work completed within a reasonable limit of time.

(3) *Organization and carrying out of the Survey.*

The colour classes, schedules and other forms being approved of by the Committee, the next step to be considered was their issue to the teachers. A reference to the Appendix to the Annual Report* issued by the Scotch Education Department showed that in 1902 there were 3145 schools in the 33 counties of Scotland with an actual average attendance of 646,501 scholars. It was further noted, that, including principals, there were 11,638 certificated teachers giving instruction to these children, and who, on the suggestion of the principals, might be willing to take part in the voluntary task of noting the colour characters of the children and recording them, together with the other information desired, on the forms supplied. It was recognised from the outset that while many principals would be quite willing to survey the whole school in each case, this would be a task of great magnitude in the larger schools, where the average attendance reached several hundreds and in many cases considerably over a thousand. The average number to be examined in each school, on the assumption that each head master or mistress made the observations, amounted to 205 children; while if every certificated teacher took part, the number was reduced to 55. It was seen that there would be great deviations in excess of these averages and therefore it was considered eminently advisable, if the survey was to be a success, that the certificated teachers generally should be invited to take part. This, it will be seen presently, was done through the medium of the principals, with the most fruitful results from both principal and class teacher. The schools from which it was considered desirable to receive returns of observations on the colour characters of the children, were those aided by Parliamentary Grants. The complete list of these schools receiving such grants for the twelve months ending the 31st August, 1902, is given in the Appendix to the Report already referred to, and this list formed the basis of the author's operations in carrying out the survey. As was originally the design of the author, he arranged to classify the returns in the usual and well-known basis of parishes and counties, and also into groups intermediate on an average in magnitude between parishes and counties. As will

* Report of the Committee of Council on Education in Scotland, with Appendix, 1902—1903. Appendix, Part II. Table 3, pp. 488—651.

be seen later, these two methods were adopted by the Committee and employed by the author as convenient and desirable ones for the purpose of analysis. At this stage, however, Mr John Gray suggested "the natural subdivision of the country into river basins, as it is well known that watersheds, when they form mountain ranges even of moderate size act as racial barriers." The view was expressed by him that "if the ordinary subdivision into counties were adopted, we should have in many cases to include populations with quite different characteristics in the same division and valuable ethnic distinctions would be lost in taking an average." The suggestion seemed a good one as a means of determining the differences between the populations in the various river basins. Also, when the population in each river basin is subdivided into districts, we have the means of determining whether any one district significantly differs from another in that basin. But this method of grouping is neither superior nor inferior to any other method of grouping populations in adjacent areas, as all that can be said in each case is that, conformably to size of sample, the population differs or does not differ from another population or from the general population of the country. Thus counties and groups of counties are quite convenient groups for the statistician to deal with, and since this method of grouping is well known to the public, it has a slight advantage over any other. Again, one must remember that no one method of grouping will solve all the problems the anthropometrician desires to solve. For instance, one may wish to contrast a city population with its environs; a mining population with a rural one; or a coast population with an adjacent inland population. Thus special groupings are frequently necessary.

In a small country like Scotland the river basins are exceedingly small, compared with the great basins on the continents of Europe, Asia, Africa and America. Besides, one has in Scotland a population the vast majority of the members of which speak one language and which has bred intraracially for generations. It therefore did not seem to the writer to be likely that grouping by river basins alone would yield all the information obtainable as to the distribution of colour, but the general idea of basins was kept in view in constituting the groups intermediate between parishes and counties, namely, districts. Thus a satisfactory solution of the area problem was found, since all the groupings discussed, namely schools, parishes, districts, counties and river basins, were and are available for statistical analysis.

The writer proceeded to carry out the district* system of grouping, commencing with the county of Lanark. Altogether 110 districts were thus constituted, the task of locating schools on the maps being an exceedingly laborious one indeed, so that much time was consumed in the construction of the districts. The Key maps opposite page 137 (Maps I.† and II.) show in a general way the

* The special district grouping has been used by the writer to determine urban, suburban and rural differences and, as already stated, is the basis of Mr Gray's memoir. Of course the maps constructed by him show the districts graded and do not show the actual numerical district averages as given in tables supplied to him.

† For names of the Divisions see Explanatory Note, p. 148.

location of these districts, while their exact relationship to counties is given in the following table (Table III.).

TABLE III.

Counties (with Districts).

Aberdeen, 77, 78, 79, 80, 81, 82, 83, 84, 86, 87. Argyll, 100, 101, 102, 103, 104. Ayr, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 36. Banff, 85, 86, 87, 90, 91. Berwick, 39, 42. Bute, 103, 104. Caithness, 97, 98. Clackmannan, 51. Dumbarton, 10, 12, 19, 22, 101, 105, 106. Dumfries, 35, 36, 37. Edinburgh, 44, 45, 46, 47. Elgin, 88, 89, 90, 91. Fife, 50, 52, 53, 54, 55, 56, 57. Forfar, 64, 65, 66, 67, 68, 72, 73, 75, 76. Haddington, 43. Inverness, 89, 91, 92, 93, 94, 99, 100, 107, 108. Kincardine, 72, 73, 74, 75, 79. Kinross, 57. Kirkcudbright, 33, 34, 36. Lanark, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15. Linlithgow, 48, 49. Orkney, 109, 110. Nairn, 89, 90. Peebles, 41. Perth, 51, 57, 58, 59, 68, 69, 70, 71, 76. Renfrew, 14, 16, 17, 18, 19, 20, 21, 23, 24. Ross and Cromarty, 93, 95, 96, 99, 108. Roxburgh, 37, 38, 39. Selkirk, 38, 40. Shetland, 110. Stirling, 10, 12, 59, 60, 61, 62, 63. Sutherland, 95, 96. Wigtown, 32, 33.

This completed the work of organization, and the writer at once proceeded to carry out the survey. On the afternoon of the 7th December, 1903, the schedules, with instructions, leaflets stating fully the object of the survey, circular letters to teachers and addressed return envelopes* were sent out from Peterhead to 3329† different school establishments in Scotland. At the same time an explanatory letter, setting out the objects of the survey, and the nature of the results expected to flow from the data about to be collected, was sent to all the leading daily and weekly newspapers in the country. Public attention was thus at once directed to the scheme approved of and circulated by a Committee which had for two of its members Professor (now Principal) Sir Wm. Turner, and Professor R. W. Reid, well known University teachers, and notable for their contributions in the domain of anatomical and anthropological science. The fact of having two such experienced and distinguished men associated with the survey, actively promoting it and directly recommending it to the teachers, has meant everything to the success of the undertaking, and has translated it from a desirable and important scheme on paper to an accomplished fact. The author can never sufficiently thank Sir Wm. Turner and Professor Reid for their solid backing of the survey, their hearty cooperation during the entire period from its inception until now, and for their uniform courtesy and kindness during the entire course of the many interviews the author has had with each. The proposed survey was widely noticed by the daily press, was favourably commented on and strongly recommended to the notice of the teachers.

* These envelopes were addressed to 36, York Place, Edinburgh, when by arrangement with the Post Office, they were, as received, immediately sent on to Peterhead. The writer's examining work took him frequently to Edinburgh and permitted of this arrangement being carried out. On his own behalf and that of the Committee he has cordially to thank Mr J. Rutherford Hill and his staff for providing a collecting centre for the Returns and for the trouble and care taken in sending them on to their present resting place.

† This was the apparent number of schools at the time. Several of these were afterwards found to be merged in other schools while a few were found to be extinct.

Meantime, in order to have the returns systematically arranged for inspection and tabling, two large cases (9′ × 7′) having 120 compartments were made ready and put in the writer's laboratory. Of the compartments, 110 were prepared for the special reception of the returns by districts, but of course each return envelope had printed and written on it the name of the school, parish, district and county to which it referred, for immediate identification. The remaining compartments were reserved for incomplete returns. A special case with county compartments was prepared to deal with the separate correspondence and a series of despatch boxes was obtained to hold and systematise the tabled data. These, with a typewriter, constituted the equipment for the survey. Everything was now ready for action.

On the 8th December, one day after the issue of the schedules, the first group of returns—5 in number—was received. After this a steady flow of returns came by each post. Within a fortnight, 366 had been received, and by the beginning of the last week of December the author was able to submit his first Interim Report to the Royal Society, stating that over 700 had been returned. Hundreds of letters had meantime been received asking for additional schedules and for explanation as to what appeared doubtful to the teachers making enquiries. These were all promptly answered, and as a result of the experience gained with those returns already sent in, an additional explanatory circular was sent out to those schools from which returns had not yet been made. This circular made clear doubtful points with regard to (1) classification of boys and girls, and (2) the method of recording relationships. The circular had the desired effect of obviating any further difficulties in making the observations. A steady stream of returns came during the early months of the year 1904. Each return was at once acknowledged and the teacher making the return thanked on behalf of the Committee. The response of the teachers was remarkable. The vast majority of them made the returns in an evidently painstaking and careful manner; and a great many of them, besides, wrote explanatory letters as to relationships, ancestry and probable racial mixture of their groups. The author was kept employed acknowledging these, and in replying to the hundreds of additional letters of enquiry during the first nine months of the year. In order to keep the scheme fully before the teachers, a reminder circular was issued in April to those schools from which no returns or acknowledgments had been received. This had the effect of bringing in a larger proportion of returns during the month of April. The rate steadily decreased until November, when only 3—the last included in the analysis—came in by post and were acknowledged. The following table (Table IV.) shows the actual numbers received during each month and the rate of return per cent. per month.

Altogether, 2695 returns were however received, but of these 407 were incomplete in certain particulars. Over 500 schools therefore made no return. The following table shows only the number of schools from which complete returns were received. With regard to the incomplete ones, either the names, ages, sex or

TABLE IV.

Table of Returns Received.

Year	Month	Number received	Per cent.
1903	December	817	35·71
1904	January	548	23·95
„	February	344	15·04
„	March	146	6·38
„	April	270	11·80
„	May	84	3·67
„	June	22	·96
„	July	22	·96
„	August	25	1·09
„	September	5	·22
„	October	2	·09
„	November	3	·13
Totals	—	2288	100·00

colour characters singly or jointly with one another were wanting. These schools have not been dealt with in this memoir. The data proper therefore consisted of fully complete returns from 2288 schools containing the records of the names, ages, sex, fraternal and cousin relationships, and colour characters of 257,766 boys and 244,389 girls, a total of 502,155 children. Although there was a good deal of further correspondence with the teachers, only a few more returns were received after November, 1904. These have not been included in the district analysis which was in operation before the returns were received but have been included in the division, county and general analyses*. The work of classification and tabling, which was commenced as soon as practicable, was soon in full operation. The response of the teachers had been remarkably enthusiastic and complete. The survey was an accomplished fact.

On behalf of the Committee the writer begs to acknowledge its great obligations to the teaching profession in Scotland for so promptly responding to the invitation of the Committee to carry out the desired observations. The writer also wishes to record his *personal* sense of indebtedness to the teachers and to thank them very cordially for all the pains and trouble they have taken in making the elaborate returns so vital to the success of the scheme. The credit of the accomplished survey is undoubtedly due to the teachers. Without the recognition

* The late returns came from the counties of Lanark, Renfrew, Banff, Elgin and Inverness and belonged, in the district scheme, to the first, fourth, eighteenth and ninety-first districts. The total results of observations for these districts are however given in the Appendix tables and not the slightly smaller figures on which the district analysis was made. The figures for the later returns are also of course given along with the others under their respective parishes and counties and were included in all analyses except the district one. The only points therefore to be noted are (1) that the district analysis is based on the slightly smaller general totals and (2) that, in the analysis of Districts I., IV., XVIII. and XCI., the late returns (not to hand at the time of analysis) are excluded.

by them of the importance of this scientific investigation, their cordial cooperation and most painstaking and laborious setting down of all the minute details required from each school, the survey would have been still in the limbo of fancy, to remain there until the census office should have the power to deal with the matter, along with the present ordinary details of this important statistical department. Only when the recording of measurable and non-measurable characters comes to be included in the census, and is dealt with officially, will the importance of much voluntary pioneer work by the teaching profession be fully recognised.

(4) *The Problems to be discussed.*

Before proceeding to make a brief statement of the analytical methods employed and to follow with a general discussion of the resulting classified data, it seems desirable at this stage to enumerate the problems germane to the survey.

(*a*) The first problem clearly is: How are the children distributed with respect to the various colour classes, what is the proportion of children found in each class, and how does the general distribution among the classes compare with those of the continental countries already surveyed?

The answer to this problem is given (α) in Table XIII., where the general distribution and the percentages of the colour classes are given, and (β) in section (12), where the results are compared with those of continental countries.

(*b*) The second problem deals with relative local differences in each colour class. Considering each colour class or category separately, one must ask, by how much does each locality in Scotland (division, county or district) differ from the remaining population? In other words, is the distribution of colour uniform throughout Scotland, and if not by how much does the proportion for each class in each locality differ from the proportion which would occur on an even distribution of the school population over the whole country? This amount when found for each locality is termed the relative local difference and the complete solution of the problem is reached when significant relative local differences are determined, and separated from those relative local differences which are fair samples of the general population. This problem is dealt with under section (6).

(*c*) The third problem is one bearing on the general resemblance of local populations to the general population. Here hair colour as a character is considered as a whole in each locality, all the classes constituting the character being considered together. Similarly eye colour as a character is considered as a whole in each locality. The distribution in each locality of the classes constituting each character is compared with the corresponding general distribution of the classes for the same characters which is found for the whole country. Considering, in this manner, hair colour collectively or eye colour collectively, do or do not local populations resemble the general population? If local populations do not resemble the general population how far do the actual local frequencies as a whole differ from the corresponding frequencies which would occur on an even distribu-

tion of the population throughout the country? In other words, if divergencies from this even distribution occur, what is the relative degree of divergency for each locality? This is, in short, the third problem which is discussed in section (7).

(*d*) The degree of local segregation of each of the colour classes constitutes the fourth problem. If the population is not evenly distributed with respect to the colour classes, which class shows the greatest degree of isolation into separate groups? This can be determined by considering successively the nature of the distribution of relative local differences of each class collectively and without reference as to where each local difference occurs. That is to say the relative local differences of each class are successively considered interlocally as a whole and the variability of each distribution determined. The greater the variability of the distribution of relative local differences for a class the more uneven will be the distribution of the class throughout the country, and the greater will be its massing into groups, and thus the greater will be the local segregation of the class. This problem is considered in section (8).

(*e*) It is important from the eugenic standpoint to know whether pigmentation is associated in any way with disease, inherited or non-inherited defects, race, or with density, fertility or other characters of the population. These problems are considered in section (9).

(*f*) An interesting problem which is concerned with sexual differences is considered under section (10). The problem may be divided up into three parts. 1. In what respects, if in any, do the constants found for boys and girls differ? 2. Are there any significant pigmentation differences between boys and girls? 3. What is the average resemblance between the male and female factors of the population?

(*g*) The next problem is one concerning urban and suburban populations. The questions may be put. 1. Are there any significant differences between the purely urban and the suburban and rural populations, and if so in what respects do they differ? 2. What differences occur (α) within each urban population (*i.e.* intralocally), and (β) between different urban populations (*i.e.* interlocally), and are these differences environmental, racial or both? This problem is dealt with in section (11) with special reference to Glasgow and its environs.

(*h*) A further problem which is of importance turns on the point as to whether hair and eye colours are independent variables or whether they are dependent. It is desirable therefore to know what degree of association, if any, exists between hair and eye colours. If association is found to exist does the relationship found agree or differ with that indicated by former surveys of adults and children. This problem is considered among others in section (12).

(*i*) The pigmentation data present other problems for solution, such as whether brothers and sisters or cousins resemble one another to any degree in hair and eye colour. These problems are not dealt with in this memoir.

(5) *Methods Employed to Determine Significant Differences.*

In making a survey of the measurable physical characters of a population one has not only to ascertain the type and variability of each character but also to consider the relationship of each local group to the general population*. Thus, in the recent investigation on the inmates of asylums it is shown that several physical types exist among the Scottish insane, and that, whether they differ or not from the sane population, local asylum groups generally do not resemble the general insane population. But non-measurable characters can scarcely yet be dealt with in the same way. It has not been found possible up to the present time, for instance, to determine the value of the character, hair colour, just because no quantitative scale based on experience has yet been devised on which to plot the observations in an orderly way indicating increase or decrease of intensity of colour. It is not clear whether such a scale is possible. Experimental work has just been undertaken by the writer which may throw some light on this point. But while hair colour cannot yet be represented on a scale of intensity of colour such as stature or head length, it can be quite properly dealt with under well defined classes or categories. As already explained, the limits of these classes have been defined in the analytical table given in each schedule. What statisticians have here to consider therefore are the frequencies of the various classes individually and collectively without reference as to whether the classes can be arranged on a scale showing grades of intensity of colour. This has been done on a moderate scale for adults†, and it may be well to restate here the methods employed before proceeding to state the results of the analysis.

A population of N individuals is to be considered, each of which possesses the character X. The character X is not measurable but can be divided into m classes. Let $s_1\ s_2 \ldots s_m$ be the classes and let the class frequencies for the whole population be respectively y_{s_1}, $y_{s_2} \ldots y_{s_m}$. The population is divided into groups of magnitude n, and each group is observed and classed with respect to the character X. In making the observations, the probability that any person observed (if the operation is a random one) belongs to class s is $y_s/N = p$, and the probability of the person not belonging to that class, but to one of the others is $(1-p) = q$. If the groups are samples drawn from the general population purely at random, the frequency for the class s for each of the groups is therefore equal to $ny_s/N = np = y_s'$, which is thus for the class s the most probable number likely to be drawn in this way; or is, shortly, the theoretical class frequency. It is necessary to consider what would happen if the whole population was observed in unselected groups at random for the following reason. If the observed class frequencies in the various geographical areas actually differed insignificantly from the theoretical class frequencies then it would be clear that the population was evenly distributed with respect to the character. Thus, *so far as this character is*

* Tocher: *Biometrika*, Vol. v. Part III. pp. 315 et seq.

† Tocher: *Biometrika*, Vol. v. Part III. pp. 335 et seq.

concerned, it would be a homogeneous population. Heterogeneity must be sought for in other characters. If all the physical characters showed homogeneity then it would be clear that one had a common race to deal with. But if, with respect to the character X, the observed and theoretical class frequencies appeared to differ significantly, then the population would not be evenly distributed with respect to X. Instead, there would be excess frequencies in some classes and frequencies falling quite short of theory (*i.e.* the proportional even distribution) in others in various localities or groups. One would then have to ascertain whether the significant differences were racial or due to other influences. The question now is: How can one determine whether any difference between observation and theory is significant or not? In other words, if $y_s'' =$ observed class frequency, how can one measure the significance of $y_s'' - y_s'$? Pearson* has pointed out that the distribution of such differences as $y_s'' - y_s'$, if occurring at random, takes the form of the hypergeometrical series

$$M\frac{pN(pN-1)\ldots(pN-n+1)}{N(N-1)\ldots(N-n+1)}\left\{1+n\frac{qN}{pN-n+1}\right.$$
$$\left.+\frac{n(n-1)}{1.2}\frac{qN(qN-1)}{(pN-n+1)(pN-n+2)}+\ldots\right\},$$

and he has shown that the standard deviation of the distribution is given by

$$\Sigma_{(y_s''-y_s')}=\sqrt{npq\left(1-\frac{n-1}{N-1}\right)}.$$

The areas on either side of the ordinate which divides the distribution at the abscissal value $(y_s''-y_s')/\sqrt{npq(N-n)/(N-1)}$, are proportional to the probabilities of greater or lesser values than the particular value found occurring in future samples. The areas can be determined when the form of curve is known. In the great majority of cases in this survey, the values of n although fairly large are but small fractions of N, and p is not very small. In such cases the hypergeometrical distribution closely approximates the normal curve, the constants β_1 and β_2 being respectively 0 and 3 within the limits of their probable errors. The modal value of the distribution is the nearest whole integer to $\frac{(qN+1)(n+1)}{N+2}$, which differs insignificantly from the mean, nq. Thus the asymmetry and leptokurtosis are insignificant and therefore the probability of greater or lesser values than that found occurring in future samples can be determined from the tables of the probability integral. In certain cases the fraction $\frac{n}{N}$ is an appreciable one, and in these the asymmetry and leptokurtosis are both significant.

In certain other cases p is rather small. In these cases the interpretation of the value of the standard deviation given, which in itself is correct, requires considerable modification because the hypergeometrical series can be no longer

* Pearson: *Biometrika*, Vol. v. pp. 173—175.

satisfactorily represented by the normal curve. The tables of the probability integral are therefore not applicable and do not give the probabilities. They can be found however when the type and the constants of the curve which fits the hypergeometrical distribution have been determined. Tables* for these extreme cases are in the course of production, but they involve laborious calculation and it may be some time before they are ready. Accordingly special stress must not be laid on the differences found where the value of p is such as to give a significantly asymmetrical distribution of samples from which the probabilities of greater or lesser values in future samples are found.

The form in which each difference has been expressed and studied requires notice. It is obvious that, in considering differences and their standard deviations, one may take the observed absolute numbers and expected absolute values—that is, in the notation herein used, y_s'' and y_s'. Again one could take the observed and theoretical percentages—that is the difference $100\{(y_s''/n)-p\}$; or reckoning y_s' in each case as 100, one could take the difference as $100\{(y_s''/y_s')-1\}$. Now it is easy to see that $\sqrt{npq(N-n)/(N-1)}$, reckoned as a percentage, is $100\sqrt{pq(N-n)/n(N-1)}$, the standard deviation with which $100\{(y_s''/n)-p\}$ has to be compared. Expressed as a coefficient of variation, it is also easily seen to be $100\sqrt{q(N-n)/np(N-1)}$, the variability constant (decreasing as n increases) with which $100\{(y_s''/y_s')-1\}$ has to be compared. Thus there are for selection, according to convenience, in the statistical analysis, the three ratios

$$(1)\quad (y_s''-y_s')/\sqrt{npq(N-n)/(N-1)}.$$

$$(2)\quad 100\{(y_s''/n)-p\}/\sqrt{100^2pq(N-n)/n(N-1)}.$$

$$(3)\quad 100\{(y_s''/y_s')-1\}/100\sqrt{q(N-n)/np(N-1)}.$$

It is perfectly obvious that the above ratios, applied to the data, will give identical results. These ratios will, throughout this memoir, be called *relative local differences* (*RLD*), this term being the one introduced by the writer in a previous investigation to denote the local differences in the physical characters of the Scottish insane†. In determining relative local differences, the first expression, which deals with the absolute figures, has been the one used, the calculations having been performed in duplicate. Since the percentages in district groups have been calculated, it was found convenient to use the second form in cases where it was necessary to compare certain of these districts with the general population.

The following table (Table V.) constructed to illustrate, by means of maps, the relative local differences in the physical characters of the Scottish insane† will be used throughout the memoir both in the text and in the maps, and defines the terms used to indicate the significance or non-significance of the observed results. From what has already been said, these relative local differences when n is fairly

* *Biometrika*, Vol. v. p. 175.

† Tocher: *Biometrika*, Vol. v. Part III. pp. 317—318; also Table VIII. of that memoir.

TABLE V.

Class Ranges.

The value found compared with the value for the general population is	Specific Term	Class	*RLD.* Range of Class in terms of $(y_s'' - y_s')/\Sigma(y_s'' - y_s')$
Very much smaller	Distinctly Micrometropic	−4	−3·5 upwards
Probably significantly less	Probably Micrometropic	−3	−2·5 to −3·5
Less but not quite siguificantly less	Mesometropic	−2	−1·5 to −2·5
Very slightly less	Mesometropic	−1	−0·5 to −1·5
Quite insignificantly different	Mesometropic	0	0·5 to −0·5
Very slightly greater	Mesometropic	1	0·5 to 1·5
Greater but not quite significautly greater ...	Mesometropic	2	1·5 to 2·5
Probably significantly greater	Probably Megalometropic	3	2·5 to 3·5
Very much greater	Distinctly Megalometropic	4	3·5 upwards

large, but small compared with N and p is not very small, are evidently the abscissal values of the normal curve whose equation is

$$y = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}.$$

These conditions exist for the majority of cases, and here therefore, for any individual result, the probabilities of greater or lesser values can be readily calculated. But in cases where asymmetrical curves result owing to n/N being appreciable, or p small or both, the probabilities, as already stated, cannot be found from the tables of the probability integral, and thus the specific term applied to any class within the range of which the relative local difference falls, may or may not apply in such cases. The terms* denoting the significance of the results in the table of class ranges (Table V.) are therefore intended to be strictly applicable only to relative local differences which are abscissal values of a normal curve, and are applicable to those which are abscissal values of a distinctly asymmetrical curve only as a first approximation. With this reservation those relative local differences which fall beyond + 2 and − 2 may possibly or even probably be significant, those falling beyond + 3 and − 3 may probably be significant, while those falling beyond + 4 and − 4 may be regarded as distinctly significant.

(6) *Relative Local Differences geographically considered. Individual differences of each class.* (*Problem b.*)

I. *Explanatory and Introductory.*

In studying the individual relative local differences of each class (that is the individual relative differences, whether the divisions, counties, districts or other

* Tocher: *Biometrika*, Vol. v. p. 318.

smaller areas are considered) the following plan will be followed with respect to Scotland geographically. The distribution of each class with respect to the eight great divisions of Scotland, as understood by the Registrar-General and used in the census and other official reports, will first be considered. Then the county distributions will be noted and finally the distributions with respect to the smallest unit—the district—will be dealt with. Thus the reader (1) will get an appreciation of the nature of the distribution in general terms, *i.e.* the significant inter-divisional differences will be determined and pointed ont; (2) will learn how far counties differ from one another, thus enabling the reader to note intra-divisional as well as inter-county differences; and finally (3) will see what localities influence the various connty and divisional differences, thus detecting differences occurring within each county—that is, the significant intra-county or purely local differences. It should be noted that the freqnencies of the various classes of a character such as hair colour or eye colour are correlated. Thus an excessive frequency of one class would point to a defect in the frequency of one or more of the other classes. Before describing the various differences, it will be useful here to show the total frequencies of each class and their percentages for the whole of Scotland. These are as follow (Table VI.):

TABLE VI.

Colour Distribution of Scottish Children.

	Hair					Eyes				
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	Totals
Boys A	64312	14162	111569	64511	3212	37788	78140	84334	57504	257766
„ B	24·950	5·494	43·283	25·027	1·246	14·660	30·314	32·717	22·309	per cent.
Girls A	67036	12435	99873	62073	2972	36347	74068	78357	55617	244389
„ B	27·430	5·088	40·866	25·399	1·216	14·873	30·307	32·062	22·758	per cent.

Boys A and Girls A=total frequencies of each class for whole of Scotland for boys and girls respectively.

Boys B and Girls B=percentages of each class for whole of Scotland for boys and girls respectively.

The following tables (Tables VII., VIII. and IX.) give the values of the relative local differences for hair colour and eye colour of both boys and girls. These differences, classed as described in Section 5, are shown in the maps, named in the course of the descriptions of the differences in each colour class in this section (Maps III. to XL.), and are the basis of the following remarks:

TABLE VII.

Relative Local Differences. Divisions.

$$\text{Values of } (y_s'' - y_s') \Big/ \sqrt{mpq\left\{1 - \left(\frac{n-1}{N-1}\right)\right\}}.$$

BOYS.

Division	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
I.	2·24	1·96	−6·31	2·91	4·08	6·58	−4·68	·03	− ·46
II.	4·36	− ·56	−9·98	5·66	6·60	12·92	·05	−5·67	−4·64
III.	2·13	6·08	−2·57	−1·69	−2·73	3·69	−1·56	2·15	−3·83
IV.	1·25	−2·99	1·64	−1·83	1·08	4·33	−5·82	− ·50	3·31
V.	− ·57	−2·95	−4·67	6·67	3·09	− 1·27	5·48	−1·74	−3·01
VI.	−8·48	−1·70	7·58	·95	− ·96	−14·38	1·96	4·78	4·66
VII.	3·63	1·60	3·88	−7·87	−4·03	1·22	1·55	−2·73	·33
VIII.	3·13	− ·38	−1·79	− ·19	−2·68	2·48	2·23	−2·20	−2·09

GIRLS.

Division	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
I.	7·20	− ·70	− 4·61	−2·49	2·70	7·19	−2·77	−3·22	·52
II.	4·08	−1·15	−10·13	5·33	9·98	14·25	−1·08	−7·10	−3·01
III.	8·12	5·16	− 4·92	−5·06	−1·28	4·48	−2·10	2·36	−4·13
IV.	4·02	−1·01	− 1·85	−1·61	·32	1·36	−6·50	·75	5·14
V.	− ·24	−2·80	− 2·09	3·33	2·78	− 1·35	6·81	−2·80	−3·20
VI.	−19·99	−1·46	12·60	7·69	−2·73	−11·32	·14	5·03	3·85
VII.	5·68	1·27	1·43	−7·03	−4·15	− ·85	2·41	− ·33	−1·55
VIII.	7·62	− ·50	− 4·68	−2·55	1·10	1·27	4·38	−3·54	−1·94

Explanatory Note on the "Divisions." (See Map I.)

I. = Northern Division (Sutherland group).
II. = North-Western Division (Inverness group).
III. = North-Eastern ,, (Aberdeen group).
IV. = East-Midland ,, (Perth group).
V. = West-Midland ,, (Argyll group).
VI. = South-Western ,, (Ayr group).
VII. = South-Eastern ,, (Lothian group).
VIII. = Southern ,, (Dumfries group).

TABLE VIII.

Relative Local Differences. Counties.

BOYS.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Aberdeen Co. ...	·33	3·55	– ·27	–2·27	1·52	6·56	–1·27	2·38	–6·86
Aberdeen City ...	– 1·04	3·55	·07	·40	–5·12	– 5·86	1·47	1·71	1·45
Argyll ...	– ·81	– ·81	–7·59	9·40	2·02	– ·47	5·27	–1·08	–4·21
Ayr ...	5·89	– ·77	–3·81	–1·02	– ·38	6·91	3·26	–5·60	–3·15
Banff ...	1·56	3·84	–1·20	–2·03	– ·69	1·10	–4·02	1·48	1·84
Berwick ...	5·72	–1·01	–4·38	– ·39	·85	1·64	3·06	–2·60	–1·85
Bute ...	– 4·56	·59	2·57	·64	2·57	– 4·33	2·56	1·03	– ·31
Caithness ...	·18	1·12	–3·25	1·52	5·54	– 2·90	–2·21	1·98	2·68
Dumbarton ...	3·07	–2·38	–2·50	·68	1·41	– 1·27	4·29	–3·16	– ·09
Dumfries ...	2·93	–2·83	1·59	–2·40	–3·34	– 3·15	3·36	2·69	–4·06
Edinburgh Co. ...	3·10	·12	1·14	–3·79	–2·63	6·28	– ·84	–2·54	–1·55
Edinburgh City ...	3·19	– ·45	– ·62	–1·66	–2·29	1·30	–1·10	–4·84	5·57
Leith ...	– 2·45	1·46	3·32	–1·18	–3·64	– 8·94	3·84	2·36	·70
Elgin & Nairn ...	6·15	·61	–3·44	–2·47	– ·21	8·82	–3·27	–2·02	–1·61
Fife K. & C. ...	1·26	–2·61	2·40	–2·32	–1·18	– 1·43	–1·58	3·19	– ·64
Forfar ...	·54	·06	·58	– ·66	–2·23	8·12	–3·52	–4·74	2·33
Dundee ...	– 3·77	– ·33	4·00	– ·99	1·37	– ·31	–5·92	2·30	4·21
Haddington ...	– ·48	1·14	1·52	–2·15	1·13	5·20	–1·26	–1·09	–1·80
Inverness ...	2·17	– ·83	–7·00	5·23	4·08	8·82	– ·55	–4·79	–1·48
Kincardine ...	– ·11	– ·16	–3·05	3·98	–1·16	– 1·20	3·47	–1·25	–1·41
Kirkcudbright ...	– 2·02	·70	–2·04	4·32	–1·33	1·93	1·30	–2·86	·15
Lanark ...	1·62	– ·08	·25	–5·34	– ·71	– 9·04	1·34	6·76	–1·42
Glasgow ...	–12·00	–1·16	7·36	4·57	–1·52	–18·55	1·04	4·95	9·03
Govan ...	– 7·80	– ·80	7·64	– ·54	·05	– ·09	– ·27	–2·31	2·98
Linlithgow ...	1·37	2·14	2·78	–5·50	– ·64	– ·84	3·01	·45	–3·12
Orkney ...	3·31	– ·91	–2·26	– ·34	·38	3·71	·31	1·62	–5·33
Perth ...	4·29	–2·38	–4·52	·98	4·53	3·30	– ·34	–3·08	1·04
Renfrew ...	– 3·78	– ·43	3·56	– ·47	1·54	·92	–2·61	1·61	·29
Ross & Cromarty	3·96	·06	–6·99	2·67	5·19	9·29	·64	–3·13	–5·07
Roxburgh ...	4·33	1·25	–1·99	–2·59	– ·49	4·54	·74	–5·29	1·28
Selkirk & P. ...	– ·82	·64	5·95	–6·19	– ·50	1·24	–2·88	2·96	–1·20
Shetland ...	1·84	1·88	–2·87	·21	·95	11·74	–5·06	–3·81	– ·09
Stirling ...	– ·90	–2·13	– ·28	2·08	1·02	1·05	– ·08	·28	–1·12
Sutherland ...	– ·94	2·20	–4·44	4·84	·10	3·24	–3·05	– ·93	1·66
Wigtown ...	·45	1·39	–2·30	1·22	·92	3·74	–2·34	– ·32	– ·24

TABLE IX.

Relative Local Differences. Counties.

GIRLS.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Aberdeen Co. ...	5·19	1·49	−2·34	− 4·11	2·72	4·36	·17	·52	−4·46
Aberdeen City ...	− ·33	2·37	− ·11	·53	−5·05	− 2·78	−1·21	3·65	− ·38
Argyll ...	− ·76	− ·13	−5·44	5·91	4·26	·56	4·20	−1·17	−3·78
Ayr ...	5·61	− ·67	− ·75	− 4·14	−1·67	7·66	1·24	−2·82	−4·71
Banff ...	4·75	5·58	−2·05	− 4·92	−1·79	1·14	−3·00	1·30	·87
Berwick ...	5·67	− ·07	−3·26	− 1·86	− ·97	1·29	2·75	−1·92	−1·96
Bute ...	− 1·16	·52	−1·03	2·03	·19	− 2·91	2·50	1·42	−1·85
Caithness ...	1·94	−1·18	−1·94	− ·08	3·47	− 1·27	·04	− ·89	2·03
Dumbarton ...	1·88	−2·54	−2·67	2·09	1·16	− 2·42	6·93	−3·80	−1·31
Dumfries ...	6·59	−1·11	−2·00	− 3·92	− ·10	− 2·47	3·14	1·77	−3·30
Edinburgh Co. ...	5·88	2·73	1·73	− 8·52	−3·38	3·84	− ·40	·00	−2·83
Edinburgh City ...	− 1·84	− ·51	·56	1·03	2·00	− ·34	−1·02	−2·83	4·55
Leith ...	·18	− ·43	1·76	− ·91	−4·18	− 8·32	4·32	4·09	−2·22
Elgin & Nairn ...	5·39	·43	−3·66	− 1·87	1·03	6·95	−4·60	·54	−1·46
Fife K. & C. ...	7·57	−2·43	−2·21	− 2·84	−4·79	− 1·94	−2·36	2·49	1·46
Forfar ...	·72	1·14	·34	− 1·96	1·05	4·96	−3·21	−4·91	4·78
Dundee ...	− 5·95	− ·12	3·18	2·08	1·97	− 2·16	−6·32	4·49	3·77
Haddington ...	3·59	·54	−2·47	− ·83	−1·31	3·34	1·25	−2·48	−1·44
Inverness ...	·92	−1·22	−7·30	5·74	8·68	10·71	− ·01	−8·04	− ·13
Kincardine ...	4·38	1·48	−4·55	− ·33	·94	1·91	4·06	−2·77	−2·99
Kirkcudbright ...	1·41	− ·72	−2·14	1·21	·51	− ·90	4·65	−2·55	−1·49
Lanark ...	2·44	1·07	1·24	− 3·14	−5·18	− 5·24	1·58	2·73	− ·32
Glasgow ...	−24·17	−1·93	9·85	14·28	1·40	−14·61	−2·16	6·62	7·40
Govan ...	−12·50	·09	9·53	2·22	− ·84	− 2·07	1·39	−2·35	2·86
Linlithgow ...	4·95	·62	− ·97	− 3·63	−2·64	·49	1·68	− ·58	−1·61
Orkney ...	4·87	− ·27	−2·26	− 2·29	− ·06	4·01	·16	·69	−4·35
Perth ...	3·72	·20	−4·47	·15	3·95	2·93	− ·58	−1·82	·17
Renfrew ...	− 8·37	−1·33	4·51	3·61	2·16	− 2·90	−1·46	2·69	1·08
Ross & Cromarty	4·83	− ·38	−6·89	1·69	5·28	9·24	−1·51	−1·87	−4·11
Roxburgh ...	4·45	1·54	−2·40	− 2·81	·75	2·43	·70	−4·07	1·71
Selkirk & P. ...	− ·61	·71	4·85	− 4·96	−1·00	·34	−1·62	2·90	−1·75
Shetland ...	4·57	·89	−3·24	− 1·77	1·18	9·73	−4·56	−3·32	·43
Stirling ...	− ·79	−2·25	3·33	− 1·81	− ·01	·55	·65	− ·86	− ·22
Sutherland ...	3·58	− ·44	−2·03	− 1·20	·18	4·26	−2·25	−3·74	3·01
Wigtown ...	1·42	− ·34	−2·98	1·74	1·38	5·26	− ·46	−3·87	·34

II. *Differences in Hair Colour.*

Hair colour of both sexes will first be considered. (α) Fair Hair. (Maps III., IV., XXI., XXII. and XXXIX.) The North-Western, South-Eastern and Southern divisions are significantly fair haired, or, using the term for significant excess of a class, these divisions are megalometropic both for boys and girls. Naming the divisions in a way more readily understood geographically, the Inverness group of counties, the Border counties and the Lothians have the greatest excess of fair hair (♂ and ♀) compared with the general population. The distributions for

boys and girls, however, appear to be different. The results for girls show that the whole of Scotland, excepting the West-Midland and South-Western divisions, are megalometropic or conversely—the Argyll and Lanark groups are micrometropic, the proportion of fair hair in these divisions or groups being significantly less than that of the general population. Looking now at the inter-county and intra-county (district) differences it is seen that any megalometropic character in the Northern division is due to Orkney and Shetland and only very slightly to the east coast of Caithness. The following counties north of the Forth are significantly fair haired: viz. Stirling, Perth, Inverness, Ross, Cromarty, Nairn, Elgin and Banff. These are distinctly Highland countics or counties on the Highland line. Examining the districts it is seen that the region of the Cromarty Firth, the region immediately south of the Moray Firth, South Perthshire, South Forfar, except Dundee, the Isle of Lewis, Dunfermline district and the Trossachs, are the specific localities north of the Forth which are significantly fair. Skye and the adjacent mainland are also moderately fair. South of the Forth, Dumbarton (north of Glasgow), Ayr (south of Glasgow), Midlothian and the Border counties are megalometropic. Lanark, excluding Glasgow, is probably megalometropic. The specific localities significantly fair or megalometropic, south of the Forth, are North Ayr, North Lanark, Midlothian, Berwick and a portion of Roxburgh. On the whole the county distributions for boys and girls correspond. Haddington, Fife and Linlithgow are significantly fair haired counties in the girl population. In view of the fact that significant excess appears in so many large areas, one must enquire where the micrometropic population is. The most outstanding cases are the cities of Glasgow, Dundee, Leith and Greenock. The relative difference in Glasgow is so great ($RLD = -12{\cdot}00$ and $-24{\cdot}17$ for boys and girls respectively) as to point to exceptional circumstances with respect to this great city. The colour distribution is entirely different from any other part of Scotland. A separate section will therefore be devoted to Glasgow and to problems bearing on the relationship between density of the population generally and colour. Aberdeen city is like the general population, while Edinburgh is significantly fair haired, slightly more so than the surrounding population. Hawick, Airdrie, Dunfermline, Forfar, Hamilton, Dumbarton and Perth are megalometropic towns; Stirling, Kirkcaldy, Rutherglen, Montrose and Peterhead are micrometropic; while Paisley, Kilmarnock, Ayr, Arbroath, Inverness, Falkirk, Dumfries, Dysart and Galashiels are mesometropic, *i.e.* these towns are like the general population.

Generally speaking, excess of fair hair is found both in the Highlands and the Lowlands in Scotland, but it cannot be said that this class is characteristic of either—the distribution is far from uniform. In the Highlands, fair hair is more characteristic of the boundaries than of the heart of the Highland country. *The Moray and Cromarty Firths, East Perthshire, the Trossachs, Dumbarton, Lewis, and East Caithness encircle and are mostly part of the Highlands, and these districts are significantly fair populations. The Borders, North Ayr, and parts of Lanark and Midlothian, as against Galloway, Selkirk, Peebles, Glasgow, and the region*

surrounding Glasgow, are fair Lowland districts. Orkney and Shetland are both significantly fair, the only distinguishing feature in hair colour among the population of these islands.

(β) Red Hair. (Maps V., VI., XXIII., XXIV. and LX.) Significant excess of red hair is confined (♂ and ♀) to the North-East division; there is a possible significant excess for boys also in the Northern and South-Eastern divisions. The counties of Aberdeen and Banff stand out clearly as having the greatest excess in the North-Eastern division; Midlothian, Roxburgh, Orkney and Shetland (for boys); Linlithgow and Sutherland (for girls) are also megalometropic. Proportions slightly above the average occur in Haddington, the Borders, Galloway, Arran and Caithness (♂), and in Haddington, Lanark, Peebles, Selkirk, Arran, Forfar and

TABLE X.

County Specification. Fair Hair. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Ayr Berwick Elgin & Nairn Perth Ross & Cromarty Roxburgh Banff ♀ Aberdeen ♀ Dumfries ♀ Edinburgh Co. ♀ Fife ♀ Haddington ♀ Kincardine ♀ Linlithgow ♀ Orkney ♀ Shetland ♀ Sutherland ♀	Dumbarton ♂ Dumfries ♂ Edinburgh Co. ♂ *Edinburgh City* ♂ Orkney ♂	*Aberdeen City* Argyll Caithness *Leith* Forfar Inverness Kirkcudbright Lanark Selkirk & Peebles Stirling Wigtown Aberdeen ♂ Banff ♂ Fife K. & C. ♂ Haddington ♂ Kincardine ♂ Linlithgow ♂ Shetland ♂ Sutherland ♂ Bute ♀ Dumbarton ♀ *Edinburgh City* ♀		*Dundee* *Glasgow* *Govan* Renfrew Bute ♂

Kincardine (♀); but in none of these cases can the differences be said to be at all significant. Only on the border of the North Highlands is there even the slightest excess of red hair. *It is quite clear that the population north of the Grampians and east of the Caledonian Canal is the only one in Scotland where red hair persists quite above the average. Special notice of this peculiarity is taken in a later section.*

TABLE XI.

County Specification. Red Hair. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Banff Aberdeen Co. ♂ *AberdeenCity* ♂	Edinburgh Co. ♀	Argyll Ayr Berwiek Bute Caithness *Edinburgh City* *Leith* Elgin & Nairn Forfar *Dundee* Haddington Inverness Kincardine Kirkeudbright Lanark *Glasgow* *Govan* Linlithgow Orkney Perth Renfrew Ross & Cromarty Roxburgh Selkirk Shetland Stirling Sutherland Wigtown Dumbarton ♂ Edinburgh Co. ♂ Aberdeen Co. ♀ *Aberdeen* ♀ Dumfries ♀ Fife K. & C. ♀	Dumfries ♂ Fife K. & C. ♂ Dumbarton ♀	

(γ) Medium Hair. (Maps VII., VIII., XXV. and XXVI.) Excess of medium or brown of various shades is peculiar to the Scottish Midlands, there being corresponding defects in the north, the Borders and Galloway. The East-Midland, South-Western and South-Eastern populous divisions show for boys significant excess. In only one division—the South-Western—is there significant excess among the girls. Among the counties, Renfrew, Selkirk and Peebles are megalometropic for both sexes; Stirling and Midlothian for girls only; Linlithgow, Fife, Dumfries and Haddington for boys only. Glasgow, Dundee and Leith are megalometropic towns. *As will be seen later, brown or medium hair is characteristic of densely populated parts.*

TABLE XII.

County Specification. Medium Hair. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Distinctly	Probably
Glasgow *Govan* Renfrew Selkirk & Peebles *Dundee* ♂	Bute ♂ *Leith* ♂ Linlithgow ♂ *Dundee* ♀ Stirling ♀	Aberdeen Co. *Aberdeen City* Banff Dumfries Edinburgh Co. *Edinburgh City* Fife K. & C. Forfar Haddington Kirkcudbright Lanark Orkney Roxburgh Dumbarton ♂ Stirling ♂ Wigtown ♂ Ayr ♀ Bute ♀ Caithness ♀ *Leith* ♀ Linlithgow ♀ Sutherland ♀	Shetland Caithness ♂ Elgin & Nairn ♂ Kincardine ♂ Berwick ♀ Dumbarton ♀ Wigtown ♀	Argyll Inverness Perth Ross & Cromarty Ayr ♂ Berwick ♂ Sutherland ♂ Elgin & Nairn ♀ Kincardine ♀

(δ) Dark Hair. (Maps IX., X., XXVII. and XXVIII.) The distribution of dark hair is very striking. Significant excess is found in the entire west of Scotland, and compared with the general population there is a corresponding significant defect of this class in the east. The Northern, North-Western and West-Midland divisions (♂) and the North-Western, West-Midland and South-Western divisions (♀) are distinctly megalometropic. The South-Western division for boys shows slight excess. Examining the counties, it is seen that Sutherland, Ross and Cromarty, Inverness, Argyll and Kirkcudbright, all in the west, are for boys megalometropic. Kincardine (♂) is the sole eastern megalometropic county. Significant excess among the girl population occurs only in the counties of Ross and Cromarty, Inverness, Argyll, Renfrew and Wigtown. There is only a slight excess in Kirkcudbright. Examining the districts it is seen that Mull, Jura and the portion of the mainland opposite is the most significantly dark population of Scotland. Then follow the remaining portion of Argyll, the western portions of Inverness, Ross and Cromarty (*excluding Skye*) and Sutherland. Although Ayrshire (♂) is not megalometropic, the southern portion below Ayr itself is, the district analysis showing significant excess in the Doon region and also in the southern portion of Galloway (Wigtown and South Kirkcudbright). The district

analysis shows the same restricted nature of the distribution in the girl population. Wigtown is the only portion of Galloway with excess. The extreme north of Ayrshire (and not the south as among ♂), and an isolated portion on the Moray Firth (Dornoch and Tain) are also dark-haired districts. Dundee, Edinburgh and Aberdeen show among the girls a slight excess of dark hair, Dundee being the most marked. Summing up the results for this class, *it is found that the Highlands, Galloway and the city of Glasgow are the populations which show significant excess of dark hair.* There is therefore clearly a sharp distinction geographically, and, as will be shown later, racially in the distribution of this class of hair colour. The east, excepting the slight excesscs in Edinburgh and Aberdeen cities (♀), a small portion of the coast-line north of Montrose and Donside (♂) is characterised by a significant defect in the expected proportion of dark hair compared with what would occur on an even distribution of that class throughout the whole country.

TABLE XIII.

County Specification. Dark Hair. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Argyll Inverness *Glasgow* Kincardine ♂ Kirkcudbright ♂ Sutherland ♂ Renfrew ♀	Ross & Cromarty ♂	*Aberdeen City* Berwick Bute Caithness Dumbarton *Edinburgh City* *Leith* Elgin & Nairn Forfar *Dundee* Haddington *Govan* Orkney Perth Shetland Stirling Wigtown Aberdeen Co. ♂ Ayr ♂ Banff ♂ Dumfries ♂ Fife K. & C. ♂ Renfrew ♂ Kincardine ♀ Kirkcudbright ♀ Ross & Cromarty ♀ Sutherland ♀	Roxburgh Fife ♀ Lanark ♀	Edinburgh Co. Linlithgow Selkirk & Peebles Lanark ♂ Aberdeen Co. ♀ Ayr ♀ Banff ♀ Dumfries ♀

(ε) Jet Black Hair. (Maps XI., XII., XXIX. and XXX.) In a general way, the distribution of jet black hair resembles that of dark hair. While this however is the case, the jet black class seems to be more scattered than the dark-haired class. Taking the divisions first, the Northern, North-Western and West-Midland divisions are clearly megalometropic both for boys and girls. The North-Eastern, South-Eastern and Southern (♂), the South-Eastern and South-Western (♀), are micrometropic; the remaining divisions are fair samples of the general population—they are mesometropic. Surveying the counties, it is seen that the excess in the Northern division is due to Caithness; the excess of the North-Western division is equally divided among the respective counties, while the excess of the West-Midland division is due to Argyll and Bute and slightly to Dumbarton. In the South-Western division, although itself meso- (♀) or micrometropic (♂), the county of Renfrew stands alone in showing significant excess of this class. The East-Midland and North-Eastern divisions are not at all uniform in their distribution of jet black hair. Thus (♂ and ♀) Perth resembles the contiguous county of Argyll in showing excess; only the eastern portion (♂) is micrometropic. Among girls, Fife is the only eastern county in this division which is micrometropic. The other eastern counties and Dundee show a slight excess over the general population. Aberdeenshire (but not Aberdeen city) stands out as megalometropic, although the North-Eastern division itself is either meso- (♀) or micrometropic (♂). Taking now a more detailed view of the distribution locally, one notes that, starting from John o' Groat's, excess of jet black hair runs along the coast to Inverness, where it leaves the coast and permeates the upper regions of the Findhorn, Spey and Donside. A slight excess is found along the Buchan coast. It is absent again until the Forfar and Fife coasts are reached, when again slight excess is noticed. It is in defect south of the Forth on the coast-line. Running inwards from Fife and Forfar the excess increases and reaches a maximum in North Perthshire, where it unites with the excess in the Spey valley and the slight excess of Donside. Southwards from Perthshire it reaches Stirling, Dumbarton, and a portion of Renfrew. Northwards it runs through Inverness, part of Ross, and on to Skye and Lewis. It avoids the main portion of Argyll where there is great excess of dark hair, but affects the portion contiguous to Skye and Inverness, *i.e.* the mainland to Ardnamurchan Point, and the Isles of Mull, Tyree, Coll and Rum. An isolated spot occurs in Wigtown (♀), and in North Ayr and the contiguous portion of Lanark (♂). *A general view of this class, small numerically, shows that jet black hair, like dark hair, is characteristic of Highland counties, but that the distribution is not so restricted as in the case of dark. There is a greater scatter in the distribution for boys than in the corresponding distribution for the girl population.*

TABLE XIV.

County Specification. Jet Black Hair. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Inverness Perth Ross & Cromarty Caithness ♂ Argyll ♀	Bute ♂ *Aberdeen City* ♀ Caithness ♀	Ayr Banff Berwick Dumbarton *Edinburgh City* Elgin & Nairn Forfar *Dundee* Haddington Kincardine Kirkcudbright *Glasgow* *Govan* Orkney Renfrew Roxburgh Selkirk & Peebles Shetland Stirling Sutherland Wigtown Aberdeen Co. ♂ Argyll ♂ Fife K. & C. ♂ Lanark ♂ Linlithgow ♂ Bute ♀ Dumfries ♀	Edinburgh Co. Dumfries ♂ Linlithgow ♀	*Aberdeen City* *Leith* Fife K. & C. ♀ Lanark ♀

III. *Differences in Eye Colour.* (α) Blue Eyes. (Maps XIII., XIV., XXXI. and XXXII.) The general percentage for blue eyes among boys is 14·66 and among girls is 14·87. The greatest excess is found in Shetland and the smallest percentage in Glasgow. Noting first the general distribution it is seen that the north is distinctly the blue-eyed region. The Northern, North-Western, North-Eastern (♂ and ♀) and East-Midland (♂) are significantly blue-eyed. The South-Eastern (♂) and Southern (♂ and ♀) show slight excess. The South-Western (♂ and ♀) is distinctly micrometropic—there is quite a deficiency of blue eyes in this division compared with the general population. The West-Midland division is only slightly micrometropic. Examining the county distributions, one finds that Orkney, Shetland and Sutherland (but not Caithness) are significantly blue-eyed; all the counties in the North-Western division (♂ and ♀) are also megalometropic; in the East-Midland division, Perth and Forfar (but not Kincardine, the coast, Dundee and Fife) are also quite significant in their

excess of blue eyes. Midlothian and Haddington (South-Eastern division) show significant excess; Berwick (♂) only a slight excess. Wigtown and Roxburgh (of the Southern division) and only Ayr (South-Western division) are megalometropic counties with respect to blue eyes. On the county basis of analysis, the tract of country stretching from Fife through the Midlands to Dumbarton and southwards through Stirling, Linlithgow, Lanark, Renfrew, Peebles, Selkirk, Kirkcudbright and Dumfries, is characterised by a deficiency (in many localities highly significant) of the blue-eyed class of children. Argyll alone of the Highland counties shows no bias in favour of blue eyes; it is like the general population. Examining the distribution from the results of the district analysis it is seen that there is no significant excess on the east coast except in the Elgin district. Inwards from Elgin, north to Sutherland, west to Lewis, south to the border of Argyll and North Perthshire, and east through the Spey region to West Aberdeenshire, blue eyes is quite in excess of the general population both for boys and girls. The excess is small in Mid Perthshire, increases in the south of the county and diminishes rapidly in passing into Stirlingshire and the populous region between the Forth and the Clyde. Turning eastwards, the excess becomes significant in North-East Lanarkshire and the neighbourhood of Linlithgow. In the Lothians, the excess found there by the county analysis is shown by the district analysis to be fairly evenly distributed. No great city shows excess of the blue-eyed population. On the contrary, there is a significant defect in each,

TABLE XV.

County Specification. Blue Eyes. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Aberdeen Co. Ayr Edinburgh Co. Elgin & Nairn Forfar Inverness Orkney Ross & Cromarty Shetland Wigtown Haddington ♂ Roxburgh ♂ Sutherland ♀	Perth Sutherland ♂ Haddington ♀	Argyll Banff Berwick Dumbarton *Edinburgh City* Fife K. & C. *Dundee* Kincardine Kirkcudbright *Govan* Linlithgow Selkirk & Peebles Stirling Renfrew ♂ Caithness ♀ Dumfries ♀ Roxburgh ♀	Caithness ♂ Dumfries ♂ *Aberdeen City* ♀ Bute ♀ Renfrew ♀	*Leith* Lanark *Glasgow* *Aberdeen City* ♂ Bute ♂

excepting Edinburgh (♂ and ♀), and Dundee (♂), which approximate the general population in distribution.

Looking at the distribution of blue eyes in the division and county maps, it seems a very wide one. That is, geographically considered it is wide, but it must of course be kept in mind that the areas shown are very sparsely populated. The populous area between Edinburgh and Glasgow and the populous centres are mainly defective in blue eyes. Thus the question of density again arises. It will be seen later that just as fair hair is negatively correlated to density so also are blue eyes.

(β) Light Eyes. (Maps XV., XVI., XXXIII. and XXXIV.) The proportion of light-eyed children in the general population is 30·314 per cent. for boys and 30·307 per cent. for girls. The West-Midland division (that is, the Argyll group) stands out prominently as the only division where significant excess of light eyes occurs both among boys and girls. The Southern or Galloway division is also significant for girls, while the South-Eastern or Midlothian division (♂ and ♀), Galloway (♂), the South-Western (♂) have a moderate but not a significant

TABLE XVI.

County Specification. Light Eyes. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Argyll	Berwick	Aberdeen Co.	Elgin & Nairn ♂	*Dundee*
Dumbarton	Dumfries	*Aberdeen City*	Renfrew ♂	Shetland
Leith	Ayr ♂	Caithness	Selkirk & Peebles ♂	Banff ♂
Kincardine ♀	Bute ♂	Edinburgh Co.	Sutherland ♂	Forfar ♂
Kirkcudbright ♀	Kincardine ♂	*Edinburgh City*	Banff ♀	Elgin & Nairn ♀
	Linlithgow ♂	Fife K. & C.	Forfar ♀	
		Haddington		
		Inverness		
		Lanark		
		Glasgow		
		Govan		
		Orkney		
		Perth		
		Ross & Cromarty		
		Roxburgh		
		Stirling		
		Wigtown		
		Kirkcudbright ♂		
		Ayr ♀		
		Bute ♀		
		Linlithgow ♀		
		Renfrew ♀		
		Selkirk & Peebles ♀		
		Sutherland ♀		

exeess of this class. It is seen from the county analysis that Argyll and Arran aecount for the exeess in the West Midland division (♂ and ♀), Dumbarton also contributing in the case of the girl population. Taking the more local view revealed by the district analysis, it is found that the exeess in Argyll thins off through Inverness to Ross, where it disappears. It extends eastwards and northwards through Mid Perthshire and over to Deeside and the Kincardine coast. All these are thinly populated districts. In the populous districts between Edinburgh and Glasgow exeess appears sporadically here and there. It runs from Glasgow and Greenock through Renfrew, North Ayr to Kirkeudbright and South Dumfries, a slight break occurring in the district inland from the town of Ayr. Finally, south of the Lothians, a tract from Peebles to Berwick shows moderate exeess. Passing from the purely local distribution to the distribution in a general sense, *it is quite clear that the light-eyed class is more characteristic of the south than of the north. The excess is more marked in the girl population.* Renfrew, Selkirk and Peebles are the exceptions. These counties are slightly micrometropic, or, compared with the general population, the proportion of the light-eyed class is scarcely so great, although not signifieantly less.

(γ) Medium Eyes. (Maps XVII., XVIII. XXXV. and XXXVI.) Turning now to the mixed class of eye defined as medium, it is found that there is 32·72 per cent. of this class for boys and 32·06 per eent. for girls in the general population. The only division in Scotland where this class is in significant excess is the populous South-Western division or Lanark group of eounties. This result is found for both boys and girls. The North-Eastern division or Aberdeen group shows a moderate excess (♂ and ♀), but the excess is not greater than could quite possibly occur in making a random selection of the same number from the general population. Examining the distribution with respect to counties, it is seen that Lanark (excluding Glasgow), Dumfries, Selkirk and Peebles—just those counties deficient in all the other classes (excepting Dumfries which has also exeess of light eyes)—are the megalometropic counties of this class. These eounties are all contiguous and the result is eommon to both boys and girls. The counties of Fife and Aberdeen and the cities of Dundee and Aberdeen have also an excess of medium eyes (♂ and ♀). Caithness (♂) and the Orkney Islands show a moderate excess of the class. Taking the local distribution, it is found that West Renfrew, North Lanark stretching into Stirling, Selkirk and the town of Dumfries, are the areas where the greatest excess is shown in these counties. West Fife in Fifeshire, the southern portion of the Buchan coast in Aberdeenshire, aceount for the moderate excess found in these eounties. The coast from John o' Groat's to Banff, with one or two local exceptions, shows an exeess of the medium class. Taking a general view of the distribution of medium eyes, *it is seen that excess of the class is restricted to an area commencing with Fife and extending right to Dumfries through Lanark. The other regions of excess are more or less detached from this region.*

TABLE XVII.

County Specification. Medium Eyes. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Glasgow Lanark ♂ *Aberdeen City* ♀ *Leith* ♀ *Dundee* ♀	Selkirk & Peebles Dumfries ♂ Fife K. & C. ♂ Lanark ♀ Renfrew ♀	Aberdeen Co. Argyll Banff Bute Caithness Elgin & Nairn Haddington *Govan* Linlithgow Orkney Stirling *Aberdeen City* ♂ *Leith* ♂ *Dundee* ♂ Kincardine ♂ Renfrew ♂ Sutherland ♂ Wigtown ♂ Berwick ♀ Dumfries ♀ Edinburgh Co. ♀ Fife ♀ Perth ♀ Ross & Cromarty ♀	Kirkcudbright Berwick ♂ Dumbarton ♂ Edinburgh Co. ♂ Perth ♂ Ross & Cromarty ♂ Ayr ♀ *Edinburgh* ♀ Kincardine ♀ Shetland ♀	Forfar Inverness Roxburgh Ayr ♂ *Edinburgh City* ♂ Shetland ♂ Dumbarton ♀ Sutherland ♀ Wigtown ♀

(δ) Dark Eyes. (Maps XIX., XX., XXXVII. and XXXVIII.) The percentage of dark eyes in the general population of boys is 22·31; in the general girl population it is 22·76. The distribution of dark eyes from the point of view of the 'division' analysis shows excesses in the South-Western or Lanark division and the East-Midland or Perth-Forfar division. The buffer county of Stirling, belonging to the West-Midland division, resembles the general population. The North-Western, West-Midland and North-Eastern divisions are all distinctly micrometropic (both ♂ and ♀) for this class. The other divisions are slightly micrometropic or are mesometropic. Examining the results of the county analysis it is noted that Dundee city and Forfar county are responsible for the significant excess in the East-Midland division, while Glasgow alone is responsible for the excess in the South-Western division. Outside these divisions there is a probably significant excess in the counties of Caithness and Sutherland. A slight excess occurs in Banffshire as also in the county of Roxburgh. Taking a local view it is found that an excess occurs in the south and east of the county of Lanark, in South Ayrshire, East Fife and the neighbourhood of Perth, besides the cases just mentioned. *The most striking feature in the distribution of dark eyes is the*

fact that excess is in the main confined to the great cities. These cities are deficient in blue eyes. There does not seem to be any great bias in favour of or against light and medium eyes, but there does seem to be a bias in favour of dark as against blue in the chief cities of Scotland.

TABLE XVIII.

County Specification. Dark Eyes. Both Sexes.

The sign ♂ indicates boys only; and ♀, girls only.

Megalometropic		Mesometropic	Micrometropic	
Distinctly	Probably		Probably	Distinctly
Edinburgh City *Dundee* *Glasgow* Forfar ♀	*Govan* Caithness ♂ Sutherland ♀	*Aberdeen City* Banff Berwick Bute Dumbarton *Leith* Elgin & Nairn Fife K. & C. Haddington Inverness Kirkcudbright Lanark Perth Renfrew Roxburgh Selkirk & Peebles Shetland Stirling Wigtown Edinburgh Co. ♂ Forfar ♂ Kincardine ♂ Sutherland ♂ Caithness ♀ Linlithgow ♀	Ayr ♂ Linlithgow ♂ Dumfries ♀ Edinburgh Co. ♀ Kincardine ♀	Aberdeen Co. Argyll Orkney Ross & Cromarty Dumfries ♂ Ayr ♀

(7) *The General Resemblance of Local Populations to the General Population.*

I. Introductory. II. Hair Colour as a Character, all Classes constituting the Character being considered together. III. Eye Colour as a Character, all Classes constituting the Character being considered together.

I. *Introductory.* (α) Class frequencies constituting a character are here considered as a whole for each locality (division, county or district), that is to say, intralocally and collectively, and compared with the proportional class frequencies of the general population. (β) As an alternative method, leading to the same result, class frequencies collectively of one locality are compared with the class frequencies collectively of the remaining population and the extent of divergency of the local population measured.

In the previous section the difference between each local group and the general population, *i.e.* the (*RLD*)'s for each colour class, were detected and discussed. In doing so, the significance or non-significance of these differences for each local group (division, county or district) was determined for each colour class or category. It has been noted that for each class of hair colour or of eye colour, many localities exhibit significant differences from the general population. In others the differences may be insignificant, while in a few localities the differences may be considerable although not quite significant. But it is possible that a locality may exhibit a difference or differences almost or just significant for one or more colour classes and yet, when the differences of all the classes constituting the character (either hair colour or eye colour) in any one locality are considered collectively, these differences as a whole may quite conceivably occur even if the locality in question were a fair sample of the general population. A comparison between the entire pigmentation of each local group and the entire pigmentation of the general population is therefore necessary, in order to detect what local groups really diverge and what local groups do not diverge significantly from the general population, for the two characters under consideration, namely, hair colour and eye colour. In other words, the degree of general resemblance of local populations (firstly in hair colour and secondly in eye colour) to the general population is to be determined. Such a determination can be made at least in two ways, and has already been made in the pigmentation of one fairly long series, namely, the Scottish Insane.

(α) One can observe for each locality how closely the observed frequencies of the various classes of hair colour or eye colour as a group correspond to their respective theoretical frequencies—the theoretical frequencies meaning of course, as already noted, those which would be got if, for each locality, the frequencies of the various classes constituting the character were proportionally the same as the frequencies found in the general population The probability that differences in the class frequencies would arise at random in any locality as great as, or greater than, the observed set of differences in class frequencies, can be found by evaluating

$$P=\sqrt{\frac{2}{\pi}}\int_{\chi}^{\infty}e^{-\frac{1}{2}\chi^2}d\chi+\sqrt{\frac{2}{\pi}}e^{-\frac{1}{2}\chi^2}\left(\frac{\chi}{1}+\frac{\chi^3}{1.3}+\frac{\chi^5}{1.3.5}+\ldots+\frac{\chi^{n'-3}}{1.3.5\ldots(n'-3)}\right)$$

if n' be even, and

$$P=e^{-\frac{1}{2}\chi^2}\left(1+\frac{\chi^2}{2}+\frac{\chi^4}{2.4}+\frac{\chi^6}{2.4.6}+\ldots+\frac{\chi^{n'-3}}{2.4.6\ldots(n'-3)}\right)$$

if n' be odd,

where $n'=n+1$ classes in the series constituting the character, m_r = theoretical frequency of any class, m_r' = observed frequency of any class and

$$\chi^2=S\left\{\frac{(m_r-m_r')^2}{m_r}\right\}.$$

This is Pearson's test of goodness of fit* and is applicable, in the manner above stated, to the present data.

(β) One can determine the divergeney in hair eolour or eye colour of any loeality from the remaining population by measuring how far the local group deviates from being a random sample of the general population. This ean be done by forming a divergency table and evaluating the mean square contingency coefficient whieh measures the degree of departure of the local group from complete resemblance to the general population, or the degree of relative divergency of the local group. Sueh tables† have already been formed for the purpose of determining the relative divergeney of thc local insane from the general insane population with respeet to pigmentation. In a divergency table two groups of the population are dealt with, the local group and the remaining population, but of course the number of classes is not limited. In this investigation the number of classes is small, five for hair colour and four for eye eolour. The frequeneies for a partieular class, S, of the two groups form a eolumn of the table, while the frequencies of all the different classes of either group form a row of the table. If $\chi'^2 =$ the total square contingency coefficient and $\chi^2 = S\left\{\frac{(m_r - m_r')^2}{m_r}\right\}$; $n =$ number in any local group and $N =$ total population, then the relation $\chi'^2 = \frac{N}{N-n}\chi^2$ holds between χ'^2 and χ^2; or χ^2 is a fraction of the total square contingency, being, as seen in the working, a partial summation of χ'^2. The mean square contingeney coefficient is of course

$$C_1 = \sqrt{\frac{\chi'^2/N}{1+\chi'^2/N}}.$$

Since χ^2 has already been calculated, thc above formula need not be used. In terms of χ^2

$$C_1 = Q = \sqrt{\frac{\chi^2}{N-n+\chi^2}},$$

and is readily obtained. Since Q measures the divergenee of a loeal group from the remaining population, it is ealled the *divergency coefficient.* The probable errors of Q have not been evaluated, exeept in one or two instances. It is sufficient to note that any value of $Q > \cdot 008$ in the present series is probably significant. The values of Q and log P have been caleulated for all the forms of local groups, namely, divisions, eounties and districts, and are given in the following tables (Tables XIX., XX., XXI. and XXII.). Thesc two sets of eonstants have been classed, the classifieation being the same as that previously adopted for the pigmentation of adults‡. As may be seen from the maps, Class O with values of log $P < \bar{3}$ and $Q < \cdot 008$ is the non-signifieant elass, the localities belonging to this class being similar on the whole to the general population.

* *Phil. Mag.* Vol. I. pp. 157—175, July 1900.

† Tocher: *Biometrika*, Vol. v. pp. 333, 334. For theory and probable errors see Pearson, *Biometrika*, Vol. v. pp. 198—203.

‡ Tocher: *Biometrika*, Vol. v. pp. 335—340.

II. *Hair colour.* (α) *Divisions.* Considering first the divisions it is seen on referring to the table (Table XIX.) and maps (Maps XLI. and XLII.) that the East-Midland division resembles the general population in hair colour, both boys

TABLE XIX.

Divergency in Hair Colour and Eye Colour. Divisions.

Division of Scotland	Hair				Eyes			
	Boys		Girls		Boys		Girls	
	Log P	Q	Log P	Q	Log P	Q	Log P	Q
1	$\bar{1}0{\cdot}3$	·0143	$\bar{1}2{\cdot}3$	·0160	$\bar{1}1{\cdot}7$	·0143	$\bar{1}2{\cdot}8$	·0152
2	$\bar{2}8{\cdot}9$	·0231	$\bar{3}9{\cdot}5$	·0281	$\bar{3}7{\cdot}2$	·0265	$\bar{4}4{\cdot}1$	·0296
3	$\bar{9}{\cdot}8$	·0141	$\bar{1}9{\cdot}5$	·0210	$\bar{5}{\cdot}4$	·0104	$\bar{7}{\cdot}7$	·0123
4	$\bar{2}{\cdot}1$	·0076	$\bar{3}{\cdot}8$	·0083	$\bar{9}{\cdot}8$	·0137	$\bar{9}{\cdot}2$	·0146
5	$\bar{1}2{\cdot}8$	·0157	$\bar{5}{\cdot}9$	·0103	$\bar{6}{\cdot}4$	·0110	$\bar{9}{\cdot}3$	·0139
6	$\bar{1}1{\cdot}3$	·0188	$\bar{4}7{\cdot}0$	·0380	$\bar{2}8{\cdot}8$	·0286	$\bar{1}8{\cdot}5$	·0237
7	$\bar{1}5{\cdot}7$	·0180	$\bar{1}4{\cdot}4$	·0181	$\bar{2}{\cdot}7$	·0058	$\bar{1}{\cdot}1$	·0052
8	$\bar{3}{\cdot}6$	·0080	$\bar{1}2{\cdot}9$	·0158	$\bar{3}{\cdot}4$	·0077	$\bar{5}{\cdot}2$	·0103

and girls, more than in any part of Scotland. The Southern division (♂) and the West-Midland division (♀) approximate more closely to the general population in the distributions of hair colour than the remaining divisions. All the other divisions diverge widely from the general population. The divergeney is greatest in the North-Western division for both sexes. This is clearly due to the exeesses of dark, jet blaek and fair hair in this division and the comparative absenee of medium. Red hair is only slightly in defeet in the division.

(β) Examining the general distributions in the county groups, it is noted that the eastern counties generally can passably be deseribed as samples of the general population. The Northern Isles (♂), Aberdeen (♂), Kineardine (♂), Forfar (♂ and ♀), exeluding Dundee, Fife (♂), Haddington (♂), Stirling, right to Dumbarton in the West (♂ and ♀), and also Lanark (♂), exeluding Glasgow, show, by their divergeney coeffieients being small, < ·008, that their populations approximate the general population in hair colour. Kirkeudbright and Wigtown in the extreme south are also like the general population. The rest of Scotland shows great divergeney from the gencral population in its distribution of hair eolour. For instanee the north-west region, owing to both its darkness and fairness, and the south-east region contiguous to the Border, owing to its fairness and brownness, are widely divergent. Can any reason or reasons be assigned why eertain eounties or areas are more like or more unlike the general population than others? Referenees to the maps (Maps XLIII. to XLVI.) and to the following table (Table XXIII.) show that at least for the boy population the eounties whieh show

least divergency for hair colour are just those counties densely populated, Lanark, Stirling and the like.

It must be remembered that the four great cities, Glasgow, Edinburgh, Dundee and Aberdeen, are excluded from the county analysis. Three of these, Glasgow, Dundee and Aberdeen, show significant divergency, that of Glasgow being very great. Edinburgh, however, resembles the general population.

Now if an urban population consisted of persons coming from all parts of the country indiscriminately, each group in the densely populated area would be a fair

TABLE XX.

Divergency in Hair Colour and Eye Colour. Counties.

Counties	Hair				Eyes			
	Boys		Girls		Boys		Girls	
	Log P	Q	Log P	Q	Log P	Q	Log P	Q
Aberdeen Co. ...	$\bar{3}\cdot2$	·0084	$\bar{5}\cdot6$	·0105	$\bar{16}\cdot8$	·0174	$\bar{6}\cdot1$	·0114
Aberdeen City ...	$\bar{7}\cdot3$	·0123	$\bar{6}\cdot7$	·0114	$\bar{7}\cdot5$	·0116	$\bar{3}\cdot1$	·0083
Argyll ...	$\bar{21}\cdot5$	·0201	$\bar{12}\cdot3$	·0159	$\bar{7}\cdot4$	·0115	$\bar{5}\cdot4$	·0100
Ayr ...	$\bar{8}\cdot0$	·0118	$\bar{7}\cdot3$	·0126	$\bar{15}\cdot2$	·0173	$\bar{15}\cdot9$	·0173
Banff ...	$\bar{4}\cdot7$	·0088	$\bar{14}\cdot7$	·0169	$\bar{3}\cdot0$	·0080	$\bar{2}\cdot5$	·0061
Berwick ...	$\bar{7}\cdot2$	·0120	$\bar{6}\cdot1$	·0116	$\bar{3}\cdot1$	·0079	$\bar{3}\cdot9$	·0070
Bute ...	$\bar{5}\cdot4$	·0101	$\bar{1}\cdot5$	·0045	$\bar{6}\cdot0$	·0091	$\bar{3}\cdot2$	·0080
Caithness ...	$\bar{8}\cdot9$	·0124	$\bar{3}\cdot1$	·0086	$\bar{4}\cdot5$	·0085	$\bar{1}\cdot2$	·0046
Dumbarton ...	$\bar{3}\cdot1$	·0084	$\bar{3}\cdot3$	·0085	$\bar{4}\cdot1$	·0090	$\bar{10}\cdot2$	·0142
Dumfries ...	$\bar{6}\cdot7$	·0109	$\bar{9}\cdot5$	·0138	$\bar{7}\cdot4$	·0115	$\bar{5}\cdot8$	·0096
Edinburgh Co. ...	$\bar{5}\cdot7$	·0100	$\bar{20}\cdot6$	·0201	$\bar{8}\cdot1$	·0125	$\bar{4}\cdot6$	·0088
Edinburgh City ...	$\bar{3}\cdot7$	·0077	$\bar{1}\cdot1$	·0056	$\bar{9}\cdot9$	·0128	$\bar{6}\cdot0$	·0095
Leith City ...	$\bar{5}\cdot4$	·0102	$\bar{4}\cdot8$	·0090	$\bar{17}\cdot3$	·0179	$\bar{18}\cdot4$	·0189
Elgin & Nairn ...	$\bar{8}\cdot7$	·0125	$\bar{6}\cdot2$	·0116	$\bar{18}\cdot0$	·0175	$\bar{12}\cdot4$	·0154
Fife K. & C. ...	$\bar{3}\cdot6$	·0080	$\bar{15}\cdot5$	·0179	$\bar{2}\cdot3$	·0064	$\bar{4}\cdot8$	·0073
Forfar ...	$\bar{1}\cdot4$	·0047	$\bar{1}\cdot4$	·0048	$\bar{17}\cdot1$	·0181	$\bar{13}\cdot7$	·0159
Dundee City ...	$\bar{4}\cdot4$	·0093	$\bar{7}\cdot2$	·0126	$\bar{9}\cdot9$	·0127	$\bar{12}\cdot9$	·0152
Haddington ...	$\bar{1}\cdot1$	·0054	$\bar{3}\cdot6$	·0080	$\bar{6}\cdot7$	·0103	$\bar{3}\cdot0$	·0082
Inverness ...	$\bar{14}\cdot9$	·0163	$\bar{27}\cdot6$	·0233	$\bar{17}\cdot0$	·0180	$\bar{30}\cdot8$	·0241
Kincardine ...	$\bar{3}\cdot0$	·0085	$\bar{6}\cdot9$	·0109	$\bar{3}\cdot9$	·0069	$\bar{6}\cdot9$	·0105
Kirkcudbright ...	$\bar{4}\cdot4$	·0092	$\bar{1}\cdot3$	·0050	$\bar{2}\cdot3$	·0062	$\bar{5}\cdot9$	·0095
Lanark ...	$\bar{1}\cdot6$	·0043	$\bar{7}\cdot6$	·0128	$\bar{19}\cdot2$	·0200	$\bar{6}\cdot8$	·0111
Glasgow ...	$\bar{29}\cdot5$	·0248	$\bar{120}\cdot0$	·0510	$\bar{71}\cdot3$	·0381	$\bar{49}\cdot8$	·0324
Govan ...	$\bar{16}\cdot9$	·0176	$\bar{34}\cdot0$	·0265	$\bar{2}\cdot2$	·0064	$\bar{3}\cdot4$	·0078
Linlithgow ...	$\bar{6}\cdot2$	·0114	$\bar{7}\cdot7$	·0120	$\bar{3}\cdot4$	·0075	$\bar{1}\cdot4$	·0042
Orkney ...	$\bar{2}\cdot2$	·0069	$\bar{5}\cdot9$	·0100	$\bar{9}\cdot0$	·0118	$\bar{6}\cdot5$	·0108
Perth ...	$\bar{10}\cdot5$	·0142	$\bar{7}\cdot4$	·0124	$\bar{3}\cdot0$	·0072	$\bar{2}\cdot4$	·0063
Renfrew ...	$\bar{4}\cdot8$	·0089	$\bar{15}\cdot3$	·0180	$\bar{2}\cdot9$	·0080	$\bar{3}\cdot5$	·0077
Ross & Cromarty	$\bar{14}\cdot3$	·0167	$\bar{15}\cdot6$	·0175	$\bar{21}\cdot5$	·0197	$\bar{19}\cdot8$	·0192
Roxburgh ...	$\bar{4}\cdot1$	·0095	$\bar{5}\cdot5$	·0104	$\bar{8}\cdot5$	·0121	$\bar{4}\cdot5$	·0088
Selkirk & Peebles	$\bar{10}\cdot7$	·0139	$\bar{7}\cdot9$	·0118	$\bar{3}\cdot5$	·0074	$\bar{2}\cdot3$	·0064
Shetland ...	$\bar{2}\cdot3$	·0067	$\bar{5}\cdot6$	·0103	$\bar{31}\cdot6$	·0237	$\bar{22}\cdot7$	·0205
Stirling ...	$\bar{2}\cdot8$	·0060	$\bar{3}\cdot9$	·0076	$\bar{1}\cdot8$	·0027	$\bar{1}\cdot9$	·0021
Sutherland ...	$\bar{7}\cdot9$	·0116	$\bar{2}\cdot1$	·0073	$\bar{4}\cdot6$	·0084	$\bar{7}\cdot0$	·0120
Wigtown ...	$\bar{1}\cdot2$	·0052	$\bar{2}\cdot4$	·0067	$\bar{3}\cdot1$	·0078	$\bar{7}\cdot4$	·0118

TABLE XXI.

Divergency in Hair Colour. Districts.

Number of District	Log *P*		Class		Number of District	Log *P*		Class	
	Boys	Girls	Boys	Girls		Boys	Girls	Boys	Girls
1	$\bar{3}\cdot58$	$\bar{2}\cdot13$	0	0	*57*	$\bar{5}\cdot52$	$\bar{4}\cdot86$	I	I
2	$\bar{12}\cdot87$	$\bar{7}\cdot32$	III	II	*58*	$\bar{1}\cdot64$	$\bar{1}\cdot88$	0	0
3	$\bar{5}\cdot90$	$\bar{3}\cdot79$	I	0	*59*	$\bar{7}\cdot28$	$\bar{5}\cdot65$	II	I
4	$\bar{2}\cdot46$	$\bar{1}\cdot87$	0	0	*60*	$\bar{4}\cdot73$	$\bar{4}\cdot49$	I	I
5	$\bar{4}\cdot17$	$\bar{4}\cdot24$	I	I	*61*	$\bar{2}\cdot36$	$\bar{4}\cdot51$	0	I
6	$\bar{1}\cdot79$	$\bar{2}\cdot55$	0	0	*62*	$\bar{2}\cdot21$	$\bar{4}\cdot39$	0	I
7	$\bar{1}\cdot19$	$\bar{1}\cdot30$	0	0	*63*	$\bar{1}\cdot02$	$\bar{3}\cdot19$	0	0
8	$\bar{2}\cdot33$	$\bar{2}\cdot07$	0	0	*64*	$\bar{3}\cdot48$	$\bar{4}\cdot47$	0	I
9	$\bar{5}\cdot42$	$\bar{1}\cdot64$	I	0	*65*	$\bar{2}\cdot11$	$\bar{4}\cdot46$	0	I
10	$\bar{7}\cdot65$	$\bar{4}\cdot50$	II	I	*66*	$\bar{4}\cdot66$	$\bar{6}\cdot06$	I	I
11	$\bar{7}\cdot75$	$\bar{2}\cdot43$	II	0	*67, 68*	$\bar{6}\cdot55$	$\bar{4}\cdot56$	I	I
12	$\bar{4}\cdot29$	$\bar{2}\cdot56$	I	0	*69*	$\bar{2}\cdot26$	$\bar{2}\cdot04$	0	0
13	$\bar{44}\cdot88$	$\bar{146}\cdot66$	VII	VII	*70*	$\bar{7}\cdot06$	$\bar{16}\cdot75$	II	V
14	$\bar{3}\cdot83$	$\bar{3}\cdot18$	0	0	*71, 76*	$\bar{10}\cdot48$	$\bar{5}\cdot38$	III	I
15	$\bar{4}\cdot63$	$\bar{8}\cdot84$	I	II	*72*	$\bar{3}\cdot57$	$\bar{2}\cdot52$	0	0
16	$\bar{2}\cdot58$	$\bar{2}\cdot06$	0	0	*73*	$\bar{1}\cdot32$	$\bar{1}\cdot25$	0	0
17	$\bar{1}\cdot94$	$\bar{2}\cdot97$	0	0	*74*	$\bar{3}\cdot37$	$\bar{6}\cdot91$	0	I
18	$\bar{5}\cdot65$	$\bar{7}\cdot84$	I	II	*75*	$\bar{1}\cdot62$	$\bar{3}\cdot48$	0	0
19, 20, 22	$\bar{1}\cdot54$	$\bar{2}\cdot62$	0	0	*77*	$\bar{7}\cdot43$	$\bar{6}\cdot76$	II	I
21	$\bar{1}\cdot09$	$\bar{2}\cdot95$	0	0	*78*	$\bar{2}\cdot64$	$\bar{1}\cdot13$	0	0
23, 30	$\bar{8}\cdot40$	$\bar{2}\cdot04$	II	0	*79*	$\bar{2}\cdot50$	$\bar{2}\cdot97$	0	0
24	$\bar{8}\cdot01$	$\bar{13}\cdot17$	II	IV	*80*	$\bar{5}\cdot08$	$\bar{10}\cdot45$	I	III
25	$\bar{3}\cdot60$	$\bar{1}\cdot15$	0	0	*81*	$\bar{1}\cdot10$	$\bar{1}\cdot18$	0	0
26	$\bar{3}\cdot88$	$\bar{8}\cdot19$	0	II	*82*	$\bar{1}\cdot17$	$\bar{1}\cdot03$	0	0
27	$\bar{1}\cdot14$	$\bar{9}\cdot77$	0	II	*83*	$\bar{2}\cdot03$	$\bar{4}\cdot39$	0	I
28	$\bar{9}\cdot05$	$\bar{5}\cdot89$	II	I	*84*	$\bar{4}\cdot46$	$\bar{4}\cdot18$	I	I
29	$\bar{1}\cdot13$	$\bar{2}\cdot40$	0	0	*85*	$\bar{4}\cdot55$	$\bar{6}\cdot84$	I	I
31	$\bar{5}\cdot09$	$\bar{1}\cdot95$	I	0	*86*	$\bar{1}\cdot54$	$\bar{3}\cdot46$	0	0
32, 33	$\bar{3}\cdot61$	$\bar{2}\cdot06$	0	0	*87*	$\bar{3}\cdot55$	$\bar{7}\cdot86$	0	II
34	$3\cdot02$	$\bar{1}\cdot48$	0	0	*88*	$\bar{14}\cdot73$	$\bar{7}\cdot64$	IV	II
35	$\bar{1}\cdot52$	$\bar{1}\cdot89$	0	0	*89*	$\bar{3}\cdot54$	$\bar{1}\cdot34$	0	0
36	$\bar{1}\cdot36$	$\bar{8}\cdot32$	0	II	*90*	$\bar{3}\cdot72$	$\bar{8}\cdot52$	0	II
37	$\bar{7}\cdot09$	$\bar{8}\cdot67$	II	II	*91*	$\bar{14}\cdot45$	$\bar{12}\cdot61$	IV	III
38	$\bar{5}\cdot16$	$\bar{3}\cdot20$	I	0	*92*	$\bar{2}\cdot52$	$\bar{3}\cdot92$	0	0
39	$\bar{1}\cdot35$	$\bar{2}\cdot33$	0	0	*93, 94*	$\bar{6}\cdot75$	$\bar{8}\cdot16$	I	II
40	$\bar{5}\cdot26$	$\bar{4}\cdot49$	I	I	*95*	$\bar{10}\cdot65$	$\bar{3}\cdot23$	III	0
41	$\bar{5}\cdot06$	$\bar{3}\cdot01$	I	0	*96*	$\bar{7}\cdot56$	$6\cdot86$	II	I
42	$\bar{7}\cdot01$	$\bar{7}\cdot69$	II	II	*97*	$\bar{17}\cdot15$	$\bar{10}\cdot85$	V	III
43	$\bar{1}\cdot05$	$\bar{3}\cdot62$	0	0	*98*	$\bar{3}\cdot10$	$\bar{2}\cdot77$	0	0
44	$\bar{3}\cdot78$	$\bar{1}\cdot08$	0	0	*99*	$\bar{14}\cdot78$	$\bar{15}\cdot76$	IV	IV
45	$\bar{5}\cdot51$	$\bar{4}\cdot92$	I	I	*100*	$\bar{11}\cdot10$	$\bar{19}\cdot11$	III	VI
46	$\bar{2}\cdot03$	$\bar{6}\cdot95$	0	I	*101*	$\bar{5}\cdot83$	$\bar{3}\cdot98$	I	0
47	$\bar{2}\cdot06$	$\bar{15}\cdot87$	0	IV	*102*	$\bar{15}\cdot65$	$\bar{4}\cdot99$	IV	I
48	$4\cdot72$	$\bar{2}\cdot00$	I	0	*103*	$\bar{2}\cdot56$	$\bar{4}\cdot93$	0	I
49	$\bar{6}\cdot01$	$\bar{8}\cdot06$	I	II	*104*	$\bar{5}\cdot17$	$\bar{1}\cdot12$	I	0
50	$\bar{3}\cdot18$	$\bar{1}\cdot89$	0	0	*105*	$\bar{7}\cdot91$	$\bar{12}\cdot67$	II	III
51	$\bar{3}\cdot80$	$\bar{3}\cdot14$	0	0	*106*	$\bar{3}\cdot47$	$\bar{4}\cdot45$	0	I
52	$\bar{7}\cdot34$	$\bar{16}\cdot33$	II	V	*107*	$\bar{2}\cdot23$	$\bar{3}\cdot88$	0	0
53	$\bar{3}\cdot02$	$\bar{5}\cdot48$	0	I	*108*	$\bar{3}\cdot87$	$\bar{3}\cdot79$	0	0
54	$\bar{1}\cdot02$	$\bar{4}\cdot73$	0	I	*109*	$\bar{2}\cdot23$	$\bar{5}\cdot88$	0	I
55, 56	$\bar{4}\cdot63$	$\bar{6}\cdot53$	I	I	*110*	$\bar{2}\cdot31$	$\bar{5}\cdot62$	0	I

Scale of Divergency classes is given on the Divergency Maps (Maps XLIII. *et seq.*).

TABLE XXII.

Divergency in Eye Colour. Districts.

Number of District	χ^2		Class		Number of District	χ^2		Class	
	Boys	Girls	Boys	Girls		Boys	Girls	Boys	Girls
1	7·8	2·3	0	0	*57*	58·2	55·6	III	III
2	189·7	76·2	VII	V	*58*	7·3	3·5	0	0
3	18·7	24·2	I	I	*59*	49·2	17·8	III	0
4	5·2	22·2	0	I	*60*	21·5	20·9	I	I
5	10·9	7·7	0	0	*61*	37·8	34·5	II	II
6	63·4	51·7	IV	III	*62*	19·8	21·8	I	I
7	25·9	11·3	I	0	*63*	13·9	4·4	0	0
8	43·3	21·9	II	I	*64*	35·0	38·2	II	II
9	40·9	32·2	II	I	*65*	38·8	23·2	II	I
10	18·4	6·0	I	0	*66*	40·3	53·2	II	III
11	31·6	44·5	I	II	*67, 68*	44·2	38·4	II	II
12	37·9	45·7	II	II	*69*	22·4	15·3	I	0
13	270·0	198·5	VII	VII	*70*	39·0	60·5	II	III
14	7·3	3·7	0	0	*71, 76*	25·8	23·3	I	I
15	42·6	30·7	II	I	*72*	7·0	9·5	0	0
16	19·4	27·9	I	I	*73*	5·7	21·3	0	I
17	10·2	18·2	0	0	*74*	2·4	14·2	0	0
18	10·9	17·4	0	0	*75*	11·9	7·7	0	0
19, 20, 22	29·1	47·2	I	II	*77*	32·3	16·2	I	0
21	4·9	17·0	0	0	*78*	23·5	25·0	I	I
23, 30	56·5	42·5	III	II	*79*	28·4	25·7	I	I
24	5·9	3·6	0	0	*80*	53·4	57·9	III	III
25	13·1	9·8	0	0	*81*	18·9	14·6	I	0
26	19·5	29·9	I	I	*82*	13·4	6·6	0	0
27	17·3	14·4	0	0	*83*	49·1	16·0	III	0
28	32·9	45·4	I	II	*84*	20·4	9·4	I	0
29	56·0	45·9	III	II	*85*	36·0	51·9	II	III
31	9·2	4·5	0	0	*86*	9·2	30·1	0	I
32, 33	24·3	42·1	I	II	*87*	12·6	15·6	0	0
34	12·9	20·3	0	I	*88*	107·4	74·8	VI	IV
35	52·4	25·1	III	I	*89*	18·8	13·7	I	0
36	17·8	26·6	0	I	*90*	83·6	13·4	V	0
37	12·6	7·3	0	0	*91*	55·5	60·2	III	III
38	9·3	8·4	0	0	*92*	21·0	15·0	I	0
39	56·7	17·1	III	0	*93, 94*	124·8	112·3	VII	VII
40	45·0	21·6	II	I	*95*	7·5	1·7	0	0
41	8·0	8·2	0	0	*96*	43·7	59·7	II	III
42	17·7	15·0	0	0	*97*	25·0	·7	I	0
43	27·7	16·2	I	0	*98*	1·6	7·1	0	0
44	40·6	20·4	II	I	*99*	24·8	39·0	I	II
45	80·2	85·1	V	V	*100*	15·7	6·3	0	0
46	9·1	1·8	0	0	*101*	24·7	13·8	I	0
47	44·4	23·5	II	I	*102*	79·1	35·2	V	II
48	44·2	12·9	II	0	*103*	24·4	4·1	I	0
49	42·2	39·9	II	II	*104*	15·3	12·2	0	0
50	13·3	23·0	0	I	*105*	31·7	26·2	I	I
51	12·5	17·6	0	0	*106*	35·9	47·8	II	III
52	10·6	26·0	0	I	*107*	10·7	34·5	0	II
53	7·0	11·4	0	0	*108*	50·2	47·8	III	III
54	13·9	6·0	0	0	*109*	35·5	28·9	II	I
55, 56	6·2	19·5	0	I	*110*	144·0	102·0	VII	VI

TABLE XXIII.

Counties considered	Persons per Square Mile
Average Density of Population in non-divergent counties (Boys) ...	291
" " " " (Girls) ...	263
Average Density of Population, taking the 33 counties of Scotland ...	256

sample of the whole country. If, however, there were special causes leading persons belonging to one or more of the colour classes to congregate in certain areas to the exclusion of others, the groups in the densely populated areas would tend to diverge from the form of distribution found to hold for the whole country. The densely populated counties of Forfar, Fife, Stirling, Dumbarton and Lanark (excluding Glasgow), are fair samples of the boy population, and therefore in these densely populated areas no special causes are likely to be found to exist tending to change the distribution of hair colour. The same can be said of the girl populations of Forfar, Stirling and Dumbarton. But the still denser centres, namely the great cities, are different, excepting Edinburgh, which is quite like the general population, for both boys and girls. The cities of Aberdeen, Dundee and particularly Glasgow, densely populated centres, diverge largely from the general population, for some reason or other. What special cause or causes are in operation which make the chief cities, excepting Edinburgh, unrepresentative? Two suggest themselves. (1) One would expect great seaports to differ if foreigners and others (Irish, etc.) of non-Scottish origin, who on an average differed in their colour characters from the general Scottish distribution, settled in these places. (2) Another special cause would clearly exist in the case where a country population contiguous to a large town differed largely from the general population, their influx thereby changing the character of the town population—a population which otherwise should be a fair representation of the whole country. It will be seen in a later section that the facts support the foregoing propositions at least in the special case of Greater Glasgow, which contains within its bounds one-fifth of the whole population of Scotland.

(γ) Divergency in hair colour in district groups will now be briefly considered. It has just been stated that of the great cities Glasgow stands out as by far the most divergent, Aberdeen, Dundee and Leith following, while Edinburgh is quite passably a sample of the general population and is thus for hair colour a representative sample of all parts of Scotland. Kirkcaldy, Perth, Inverness, Ayr, Kilmarnock, Montrose, Stirling, and other smaller towns moderately resemble the general population. Examining now the country districts, it is seen that by far the most divergent area is along the seaboard of the west (see Maps XLVII. and XLVIII.). This area contributes largely to the divergency of the north-west by its blackness, darkness and fairness, as revealed by the division and county analyses, and has the following boundaries. It commences in the north-west of Ross, is

bounded by Strath Glass eastward, includes Skye in the west and terminates in Islay and Jura for boys and Mull for girls. This is of course the heart of the Gaelic speaking region. The region of the Caledonian Canal is less divergent than the west, but passing over to Perthshire, East Inverness due again to excess of fair and jet black, and Moray due to fair, the divergency increases. The divergency of the population eastward of this diminishes but it is still high in Donside in Aberdeenshire. Travelling southwards, it again reaches a maximum in the region of Dunkeld and eastward towards the coast, but excluding it, due again to blackness and fairness. As already pointed out in the county groups, the east coast is not very divergent, Fife being the most divergent portion of the coast-line. The region around Dunfermliue, due to a large excess of fair, is widely divergent, as also is Midlothian from the same cause. Berwick, north of the Tweed, is a divergent population, but Roxburgh, south of the Tweed, is very like the general population. From Berwick the divergency follows the Tweed and passing through Selkirk and Peebles reaches the Solway Firth, where it again turns in a north-western direction (♀), avoiding Galloway which, as has been already pointed out, passably resembles the general population. The divergency (♀) maintains the same degree in Ayr (north) as in Dumfries, but excepting a portion south of Ayr burgh the whole of the south-west population of boys is fairly homogeneous.

As shown by the district grouping the local populations of boys which passably resemble the general population, are the regions of West Caithness, the south coast of the Moray Firth, excepting Elgin, the Deveron Valley, the Ythau valley, Deeside, Kincardineshire, the south-west of the Firth of Forth, the south-east of Fife, the Lothians, the Teviot valley and the south-west of Scotland—that is, west of Peebles and Dumfries, and south of Renfrew and North Lanark. Speaking generally of the boy population, the populous area commencing in the north-east and ending in the region of Glasgow, i.e. in the northern portion of the south-west (including most of the intervening area), is the least divergent area for boys. The north-west and south-east are the most divergent—the north-west mainly because of its darkness, and the south-east mainly because of its fairness.

The divergency of the girl population is different in some respects. Only a small portion of the coast near Inverness is non-divergent instead of the larger tract for boys. The Lothians, a considerable portion of Dumfries, the northern part of Kirkcudbright and Ayr north of the burgh are all more divergent than the boy population and do not passably resemble the general population as the corresponding groups for boys do. The northern portion of Argyll and the southern portion of Inverness are non-divergent girl populations, the corresponding boy populations being much more divergent. On the whole the non-divergent girl groups are more isolated from one another than the boy groups, and the separation of the population (excluding certain towns) diagonally into an east-north-east and midland non-divergent population and a west-north-west and east-south-east divergent one is not so apparent. In a general way one can see that the district groups confirm the results of the county analysis. One can see from the district

TABLE XXIV. *Divergency in Hair Colour.*

Not Significant or Scarcely Significant. Class 0	Probably Significant or Quite Significant. Classes I and II		Widely Divergent. Classes III and upwards	
Division	Division	Divergence is mainly due to excess of	Division	Divergence is mainly due to excess of
East-Midland	North-Eastern (♂)	fair, red	Northern	fair, jet black, dark (♂)
Southern (♂)	West-Midland (♀)	dark, jet black	North-Western	fair, dark, jet black
			South-Eastern	fair, red (♂) medium (♂)
			South-Western	medium, dark
			North-Eastern (♀)	fair, red
			West Midland (♂)	dark, jet black
			Southern (♀)	fair
County	County		County	
Orkney & Shetland (♂) fair	Orkney & Shetland (♀)	fair	Fife (♀)	fair
Aberdeen (♂) red	Aberdeen (♀)	red, jet black	Banff (♀)	fair, red
Kincardine (♂)	Kincardine (♀)	fair	Selkirk (♂)	medium, red
Forfar	Lanark (♀)	fair	Peebles (♂)	medium, red
Fife	Caithness (♂)	fair, jet black	Ross & Cromarty	fair, dark, jet black
Stirling	Kirkcudbright (♂)	red		
Dumbarton	Bute (♂)	medium, jet black	Inverness	jet black, dark, fair
Lanark (♀)	Sutherland (♂)	dark, jet black		
Wigtown	Elgin	fair	Argyll	dark, jet black
Haddington	Banff (♂)	fair, red	Perth (♂)	fair, jet black
Caithness (♀)	Aberdeen City	red, dark	Glasgow	medium, dark
Kirkcudbright (♀)	Dundee	medium, dark, black	Govan	medium
Bute (♀)	Leith	medium		
Sutherland (♀)	Berwick	fair, medium		
Edinburgh City	Roxburgh	fair		
	Dumfries	fair, medium		
	Ayr	fair		
	Selkirk (♀)	medium, red		
	Peebles (♀)	medium, red		
	Perth (♀)	fair, jet black		
District or Area	District or Area		District or Area	
Caithness inland	Banff and Aberdeen Coast		Seaboard on west coast from Sutherland to Mull, bounded by Strath Glass and Caledonian Canal eastwards	dark, jet black (fair slightly)
Lower Spey, Findhorn & Deveron Valleys, except Elgin	The district parallel eastward to the Caledonian Canal (♂)			
Deeside	Upper Tweeddale, Ettrick and Yarrow region			
Kincardine coast	Leith			
Esk Valleys	Hamilton			
Loch Earn	Dundee		Caithness Seaboard to Black Isle	fair, dark, jet black
Falkirk region (♂)	Central Buchan		Upper Spey and Findhorn Valleys	fair
Haddington coast	Stirling		Region South of the Forest of Athol	fair, jet black
Teviotdale	South Forfar		Donside (♀)	fair
Galloway & Clyde Valley to Ayr Coast (♂)	Loch Leven district		Dunkeld region	fair, black
Galloway & South Ayr (♀)	South-East Fife		Dunfermline region	fair
Upper Spey region parallel to Caledonian Canal, eastwards & northern portion of Argyll (♂)	Selkirk		Glasgow	dark, medium
			Greenock	dark
Towns :—Edinburgh				
Kirkcaldy				
Perth				
Inverness				
Ayr				
Kilmarnock				
Montrose				
Stirling				

maps (XLVII. and XLVIII.) that the denser midland and east coast areas are well mixed samples of the population. Over the whole of Scotland about 60 of the separate district groups are quite representative of the general population, representing a total of 114,482 boys in the boy population of 257,766, or 44·4 per cent., and 97,839 girls in the girl population of 244,389, or 40 per cent.

The results of the divergency analysis for hair colour can now be summarised. Taking large samples of the population (i.e. the divisions) to remove merely local differences and to some extent the effect of unequal density, thus getting a general view, it is seen that the populous East-Midland division is a fair representation of the general population for hair colour of both boys and girls. The Southern division is so for girls only. The fairly populous North-Eastern division diverges mainly because of its fair-haired and red-haired population; the less populous West-Midland division because of its dark population. The other divisions are widely divergent for several reasons. The divergencies of the Northern and North and North-Western divisions are accentuated by their being comparatively small samples separated geographically from the rest of the population, and are not like the rest of the country because of their excessive fairness and darkness.

Taking smaller samples of the population (counties, cities and districts) it is seen that populous counties are fairly representative of the general population; many populous districts also are; but the great cities (excluding Edinburgh which is representative of the population) are divergent. There are elements present in the urban populations which make them unrepresentative of the general population. Certain outlying sparsely populated districts, particularly on the west coast, are also divergent and unrepresentative. The cause or causes of the divergency in the populations affected will be considered in the next section.

III. *Eye Colour.* (α) *Divisions.* The Southern and South-Eastern divisions (♂ and ♀) are the most representative of the general population. These populations are passable samples of the general population. Next in order are the North-Eastern, East-Midland and West-Midland divisions. Then follow the Northern—due to excess of blue eyes, and the South-Western—due to excess of medium and dark; and lastly the most divergent of all, the North-Western, whose divergency is also mainly due to the excess of blue eyes. (See Maps XLIX. and L.)

(β) *Counties.* Examining the county divergencies it is seen that, in the boy population, and taken in the order of greatest divergency to least divergency, the following counties diverge greatly from the general population owing to excess of blue eyes, namely: Orkney, Shetland, Ross, Cromarty, Inverness, Elgin, Nairn, Aberdeen and Forfar. Ayr in the south greatly diverges owing to excess of both blue and light eyes, and Lanark greatly diverges owing to a large excess of medium eyes. The divergencies in all the foregoing cases are very great. Among the still significantly but less divergent counties are the Lothians and Roxburgh (excess of blue eyes), Dumfries (excess of light and medium), Argyll and Dumbarton perhaps (excess of light eyes). The non-divergent regions are somewhat isolated from one another; they are Banff and Kincardine in the north; Perth, Fife, Stirling,

Dumbarton, Renfrew and Linlithgow, all contiguous—that is, practically the whole of the Scottish Midlands; Berwick, Peebles and Selkirk, contiguous in the south-east, and finally Kirkcudbright and Wigtown in the south.

The girl population shows on the whole equal divergencies in the northern counties already mentioned, divergencies which are due to excess of blue eyes; in Ayr the divergency is almost entirely due to blue eyes and scarcely any to light eyes as among the boy population. The divergency in Lanark is only just significant and is due to excess of both medium and light eyes. Wigtown and Kirkcudbright are both significantly divergent, due in the case of Wigtown to excess of blue eyes and in the case of Kirkcudbright to excess of light eyes. Galloway therefore differs distinctly in its boy and girl distributions of eye colour. The non-divergent regions or rather the non-significantly divergent regions in the girl population for eye colour are as follows: Caithness and Banff in the north; Perth, Linlithgow, Stirling, North Lanark and Renfrew all contiguous; and Berwick, Selkirk and Peebles also contiguous near the Border.

(γ) *Districts.* Looking at the district results, they confirm the county analysis and also the conclusions arrived at with respect to hair colour. The populous Midlands, namely, North Lanark, Perth, Stirling, Dumbarton, Fife and portions of the east coast (i.e. Forfar and north-east Aberdeenshire, and from Nairn to Caithness) are all comparatively representative of the general population in eye colour. Thus while Glasgow itself is divergent, the great part of the environs is not. Such populous centres as Greenock, Kilmarnock, Falkirk, Ayr, are scarcely significantly divergent. Edinburgh, Dundee and Aberdeen cities are significantly divergent. In Aberdeen it is due to excess of medium, in Dundee to excess of dark and medium and in Edinburgh to excess of dark alone. It is seen, just as in hair colour, that the very sparsely populated regions and the very thickly populated areas are the most divergent. But while all the sparsely populated regions diverge on account of excess of blue eyes, all the very densely populated areas diverge because of excess of light, medium or dark. It is to be expected that Dundee would have a fair proportion, or even excess, of dark eyes, since the country adjacent to the city, namely, Perthshire and Forfarshire, are the only counties in Scotland showing excess of this class. The reason for the excess in Edinburgh is not so apparent, unless the migration from these counties to the capital is greater than from the rest of the country. The foreign population, as will be shown later, is significantly associated in general with dark eyes, but on examining the returns, it has been found that foreigners are not present in Edinburgh in sufficient numbers to affect the distribution of dark eyes in the school population there. With Glasgow or certain districts of the western city, the case is different, as will presently be shown. Forfarshire and Perthshire people are perhaps likely to have migrated to Edinburgh in greater numbers than people from other parts. This would account for the excess. The excess of medium eyes in Glasgow may be partly accounted for by a greater proportion of migrants from Lanarkshire, Dumfries, Peebles, Selkirk and Fife, all counties with a distinct excess of this class.

TABLE XXV.

Divergency in Eye Colour.

Not Significant or Scarcely Significant. Class 0	Probably Significant or Quite Significant. Classes I and II		Widely Divergent. Classes III and upwards	
Division	Division	Due to Excess of	Division	Due to Excess of
South-Eastern	Northern	blue	North-Western	blue
Southern	North-Eastern	medium & blue	South-Western	medium
	East-Midland	dark & blue		
	West-Midland	light		
County	County	Due to Excess of	County	Due to Excess of
Banff	Sutherland	blue, dark	Shetland	blue
Caithness	Aberdeen	blue, medium	Ross & Cromarty	blue
Kincardine	Argyll	light	Inverness	blue
Perth	Dumbarton	light	Elgin & Nairn	blue
Stirling	Midlothian	blue	Forfar	blue & dark
Dumbarton	Roxburgh	blue (and dark)	Lanark (♂)	medium
Govan	Dumfries	light	Ayr	blue & light
Renfrew	Orkney	blue	Glasgow	medium & dark
Linlithgow	Aberdeen City	medium	Leith	light & medium
Selkirk	Dundee City	medium & dark		
Peebles	Edinburgh City	dark		
Berwick				
Kirkcudbright				
Wigtown				
Bute				
Haddington				
Fife				
Kinross & Clackmannan				
District or Area	District or Area		District or Area	Due to Excess of
Environs of Glasgow	Parts of North Lanark and North Ayr		North-East Lanark, Carluke region	blue
Renfrew including Greenock	Midlothian except near Edinburgh		Elgin district	blue
Kilmarnock	South Fife (♀)		Spey Valley	blue
Ayr	Dundee		Black Isle	blue
Parts of North Lanark	Most of Perthshire		Glen Urquhart region	blue
Falkirk area	Edinburgh City		Islay & Jura	light
Environs of Edinburgh	Aberdeen City		Shetland	blue
Fifeshire generally except Loch Leven area	Galloway		Glasgow	medium & dark
North Forfar	Linlithgow area			
Area from Buchan coast to Spey Valley	Skye and the adjacent mainland, north and south			
Dornoch and Tain region	Orkney			
Caithness inland	Remaining environs of Glasgow			
North and South Uist	Irvine			
	Roxburgh			
Mull and adjacent mainland	Outskirts of Perth city			
South Ayrshire	Donside			
Dumfries	Part of Buchan coast			
North Kirkcudbright	Lewis			
South Roxburgh	North Dumbarton			
Peebles				
Berwick				

Whether migrants from these counties partly account for the excess of medium eyes in Glasgow or not, excess of medium eyes is associated with densely populated centres and is accordingly dealt with in the section discussing the relationship between density of population and colour. It should be finally noted that the very sparsely populated regions, all of them having an excess of blue eyes, are inhabited by a people who have been undisturbed by any recent immigrations and who most probably are descendants of a race long resident in the country.

The accompanying table (Table XXV.) gives a synopsis of the results respecting the relative divergency in eye colour, in the divisions, counties and districts respectively.

(8) *Class Segregation. The Nature of the Distribution of Relative Local Differences of each Class considered collectively and interlocally, without reference as to where they occur geographically, and the Degree of Segregation of each Class determined.*

I. *Interlocal Constants.* It has been shown (Section 6) that, in each colour class, differences occur throughout the country in localities (specifically pointed out, in each case, in the section referred to), which are distinctly significant. Positive differences, much in excess of the expected, occur in contiguous areas, indicating a differentiation for each class more or less from the remaining population. That is, the existence of these individual local differences proves that the population is not an evenly distributed one with respect to the colour class or classes under consideration. It is true that many of the differences could quite well occur at random and therefore that many localities resemble the general population with respect to one or more classes. But those larger differences, reckoned significant owing to the great odds against their occurring at random, quite upset the proposition that the distribution of the class over the whole country is a random one. Having indicated the localities where individual significant differences occur (thus proving segregation) and also those where non-significant differences occur, the differences for each class collectively will be considered without reference as to where they occur geographically in order to compare the *degrees* of segregation of the classes. It will then be seen which class has the greatest geographical separation. It is therefore necessary to provide a *measure* of local segregation, that is to say, one must have a single common measure, for each class, of the extent of the deviation from a uniform distribution of persons belonging to the class over the whole country. This measure is easily obtained when it is remembered that the relative local differences are all the local differences reduced to a common scale by dividing each difference by its standard deviation. Since this is the case, if the differences are such as would arise from a uniform distribution of the persons belonging to each class all over the country, these differences as a series would of course form a normal distribution with a mean value $h = 0 \pm \frac{\cdot 67449}{\sqrt{q}}$, and a standard deviation $s = 1 \pm \frac{\cdot 67449}{\sqrt{(2q)}}$, where q is the number of groups (either counties, districts, or units of area) considered. Thus

h and s are interlocal constants. This test of the degree of homogeneity of a class or character in a population scattered over a wide area has already been applied by the writer, the constants for both measurable and non-measurable characters being determined*. If then a population is non-segregated with respect to any class (that is, if persons belonging to the class are well distributed over the country) the interlocal constants h and $(s-1)$ will be both equal to zero within the limits of their probable errors, and the segregation of a class will increase as these constants become greater and greater.

The following table (Table XXVI.) gives the values of the interlocal constants for both the boy and girl populations, the distributions considered being those of the relative local differences arrived at from the county data—that is, with the county as the unit of area. Table XXVII. is one in which the classes are arranged in the order of the significance from lesser to greater segregation.

II. *Significance of the Constants.* These results show how decided the deviations are from purely uniform distributions of the class populations. It is seen that the blue-eyed class and the fair-haired class are both highly separated geographically from the general population. The separation is greater in the case of fair-haired girls than in the boys of the same class. The deviation from a random distribution for boys and girls is of the same order in the other colour classes.

TABLE XXVI.

Interlocal Constants. Colour Segregation.

(This table shows that a grouping of children of the same class occurs no matter what class is selected. The figures show the relative extent of the segregation of the classes.)

h = mean of the series of relative local differences, boys or girls, for each colour class.

s = standard deviation of the series of relative local differences, boys or girls, for each colour class.

s_m = standard deviation, as above (boys).

s_f = standard deviation, as above (girls).

Colour	Boys			Girls			
	h	$(s-1)$	$\frac{s-1}{E_{(s-1)}}$	h	$(s-1)$	$\frac{s-1}{E_{(s-1)}}$	$s_m - s_f$
Fair Hair ...	·45	2·75	34·12	1·14	5·14	63·77	−2·39
Red Hair ...	·18	·69	8·56	·09	·56	6·95	·13
Medium Hair ...	− ·57	2·82	34·86	− ·81	2·90	35·98	− ·09
Dark Hair ...	− ·04	2·24	27·79	− ·39	2·95	36·60	− ·71
Jet Black Hair ...	·20	1·36	16·87	·32	1·93	23·95	− ·57
Blue Eyes ...	1·17	5·02	62·28	1·02	4·12	51·12	·90
Light Eyes ...	− ·09	1·78	22·08	·13	1·85	22·95	− ·07
Medium Eyes ...	− ·51	2·09	25·93	− ·59	2·15	26·68	− ·06
Dark Eyes ...	− ·33	2·11	26·18	− ·35	1·87	23·20	·24

* *Biometrika*, Vol. v. pp. 323—327.

Red hair is the only class which shows a moderate approach to uniformity of distribution, but even in this class the deviations are 7 and 8½ times their probable errors for boys and girls respectively. There is, however, a decided approach towards an even distribution of this class over the whole country compared with all the other classes. But for the probably significant excesses in the north-east

TABLE XXVII.

Segregation in Colour.

(This table shows that children with red hair are the most uniformly distributed class, while fair haired blue eyed children are not well distributed throughout the country. They have a tendency to occur in groups and show therefore the greatest segregation.)

Divergence from homogeneity is	Interlocal constant is	Class of Category
Significant ...	between 0 and 1·0	Red Hair ♂ and ♀
Very significant ...	„ 1·0 and 2·0	Jet Black Hair ♂ and ♀ Light Eyes ♂ ♀ Dark Eyes ♀
Highly significant ...	„ 2·0 and 3·0	Dark Eyes ♂ Medium Eyes ♂ ♀ Dark Hair ♂ and ♀ Fair Hair ♂ Medium Hair ♂ ♀
Excessively great ...	above 3·0	Fair Hair ♀ Blue Eyes ♂ ♀

of Scotland and the neighbourhood of Edinburgh as shown in the class analysis (Section 6), the distribution of the class of red-haired persons would be fairly uniform. The chance against meeting a schoolboy of this class in travelling over Scotland is about 17 to 1. One would have to note at random the colour characters of at least 18 people on an average in order to have one of this class in the group. But the chances are slightly lower in Aberdeen and Banff and Midlothian. They fall to about 14 to 1 against. The chance against meeting a person of the jet black class is much smaller, about 99 to 1, but the chances vary more as one moves from place to place. In certain places it is as small as 400 to 1. The chance against meeting a person of the dark class or of the fair class is about 3 to 1 and of the medium class about 3 to 2 and so on. The point is that while one can state in a general way the chances for or against a Scottish child belonging to any one of the hair and eye colour classes, these chances vary largely from district to district. The question may be asked, What is the typical Scotchman like? One cannot answer that question offhand from the present data, which deals with school children only. It must be remembered that there is a change in hair colour and eye colour in passing from childhood to manhood. Hair colour generally becomes darker more or less with age. A fair-haired boy or girl may or may not become a fair-haired man or woman, but there is a tendency to become darker. A measure of the change, from Prussian and British data by Pearson*, and by the author† from the Aberdeenshire data, shows

* Pearson: *Biometrika*, Vol. III. p. 161.

† *Biometrika*, Vol. V. pp. 339—341.

that the correlation between age and hair colour is quite appreciable. On the assumption that the rate of change of hair colour and eye colour with age is not likely to vary appreciably in passing from one district to another, the author determined the probable distribution of the colour of the adult population of Scotland. The result was published in the same memoir*. Using the result together with the percentage results for the whole of Scotland for boys and girls as found from the present data, the following table (Table XXVIII.), constructed as a probability table, gives the chance of a person of Scottish nationality possessing any one of the following characteristics :—

TABLE XXVIII.

The Probability of the Person belonging to any one of the following Colour Classes is

Colour	Adult Population	Boys			Girls		
		Scotland Generally	Range in Counties		Scotland Generally	Range in Counties	
			From	To		From	To
Hair:							
Fair ...	·115	·250	·221	·314	·274	·243	·344
Red ...	·042	·055	·046	·069	·051	·041	·068
Medium ...	·559	·433	·373	·495	·409	·356	·474
Dark } ...	·284	·250	·187	·308	·254	·194	·291
Jet Black } ...		·013	·008	·024	·012	·002	·026
Eyes:							
Blue } ...	·278	·147	·103	·259	·148	·118	·252
Light } ...		·303	·227	·337	·303	·241	·348
Medium ...	·459	·327	·279	·344	·321	·266	·358
Dark ...	·263	·223	·174	·244	·228	·159	·263

With regard to the juvenile population, the above table shows that one can hardly say any particular eye colour is typical of Scotland. There is a bias in favour of light and medium eyes. Brown hair is the most likely colour for a child to possess. Fair and dark are equally likely hair colours in the juvenile population. Medium eyes and brown or medium hair are more typical of the adult population.

Summarising the results of this section, it has been found possible to classify the degrees of segregation of the colour classes—a segregation already proved, although its amount was not revealed in any one case in considering the individual differences. It has now been shown that segregation of certain classes from others exists. The greatest segregation from others (or congregation as a class) is shown

* Tocher: *Biometrika*, Vol. v. pp. 339—341.

in the case of blue eyes, the interlocal or segregation constants $(s-1)$ being 5·02 and 4·12 respectively (see also Diagrams VI. and XV.). The odds against an even distribution of persons belonging to this class is thus enormously great, as also are the odds against persons of the fair-haired class being evenly distributed (see Diagrams I. and X.). The difference in the segregation of the boys and girls is marked. Medium hair and dark hair are approximately equal to fair hair ($\sigma^{\prime}$) in their divergence from uniformity of distribution (Diagrams III., IV., XII. and XIII.), and then follow medium and dark eyes (Diagrams VIII., IX., XVII. and XVIII.), and with slightly less segregation still, light eyes (Diagrams VII. and XVI.), and jet black hair (Diagrams V. and XIV.). Finally, in the case of red hair the interlocal constant shows persons belonging to this class to be the most evenly distributed one throughout the country (Diagrams II. and XI.). In no case, however, can the exact probability of an individual belonging to any particular class be predicted with accuracy, just on account of the uneven nature of the distribution of persons belonging to the class. It falls finally to be noted here that the differences for each class have been considered collectively, without reference as to *where* they occur geographically or as to whether the differences for boys and girls occur together in the same place. This point is specially dealt with in another section, where a measure is given of the agreement of the sexes in colour characters.

The most striking result in this section is that bearing on red hair. Its distribution is so markedly different from the rest of the classes as to attract attention. The occurrence of red hair in Scotland either (α) is independent of race, or (β) is one of the effects of blending of races—perhaps widely divergent races, or (γ) is an abnormal condition in hair colour and deserves the attention of the physiologist and pathologist.

(9) *Peculiarities in the Distribution of Colour in Scotland.*

I. *General.* An examination of Table XXIX. will show how far the distribution for boys and girls differ, and also what excesses for hair colour and eye colour occur together. It should be noted that this does not necessarily mean that a particular combination (e.g. fair hair and blue eyes) is in excess. This can be accurately determined only by comparing the excess frequencies of the particular combinations found in the localities under consideration with the proportional frequencies of the same combinations in the general population. The statistical labour involved in such an analysis would be very great and could not be attempted by the writer until the present analysis had been completed. Besides, no funds were available to defray the considerable additional expense which would have been incurred in providing for clerical assistance in tabling the combinations and otherwise completing the statistical analysis. Thus, the results of the present investigation are those flowing from individual classes and only indirectly from combinations.

The table (Table XXIX.) shows that in the girl population of the entire north, excess of blue eyes and fair, dark and black hair occurs together. Excess of blue eyes, although common to the entire north for the boy population, is associated with great excess of fair hair only in the North-Western division, and with excess of red hair in the North-Eastern division, which excess is also

TABLE XXIX.

Excess positive Frequencies peculiar to each of the eight great Divisions of Scotland.*

B=Boy Population. G=Girl Population.

Colour	Division							
	I	II	III	IV	V	VI	VII	VIII
Hair:								
Fair ...	BG	BG	BG	G	—	—	BG	BG
Red ...	—	—	BG	—	—	—	B	—
Medium ...	—	—	—	B	—	BG	B	—
Dark ...	B	BG	—	—	BG	G	—	—
Jet Black ...	BG	BG	—	—	BG	—	—	—
Eyes:								
Blue ...	BG	BG	BG	B	—	—	—	B
Light ...	—	—	—	—	BG	B	BG	BG
Medium ..	—	—	BG	—	—	BG	—	—
Dark ...	—	—	—	BG	—	BG	—	—

characteristic of the girl population in that division. The characteristic feature of the East-Midland division is that it possesses both an excess of blue eyes and an excess of dark eyes. There is an excess of fair hair (♀), and a defect of red hair (♂), but otherwise the hair distribution does not markedly differ from the general population. The West-Midland population differs quite sensibly from the East-Midland. The characteristic feature of the West-Midland population is that excess of light eyes occurs with excess of both dark and jet black hair. The South-Western division with its dense urban populations is quite different from the Southern and South-Eastern divisions. The South-Western population has an excess of medium hair occurring with excesses of medium and dark eyes, while the remaining Southern population is characterised by an excess of fair hair only. The Southern division (♀) has the excess of fair hair occurring with excess of light eyes.

The question may well be asked: What can one learn from all this maze of detail as to the significant differences in the distributions of the various colour classes? Are they racial differences or differences due to other factors? One

* In some cases the excess positive frequencies are not quite significant (see tables of relative differences, Table VII.).

cannot in this memoir enter into a general discussion as to the origin and racial characteristics of the Scottish people. This memoir is concerned only in elucidating the nature of the colour characteristics of Scottish children for the purpose of assisting those engaged in studying racial and social problems and problems in heredity. Such peculiarities as may assist this study may therefore be noticed in detail.

II. *Red Hair.* A striking peculiarity in the distribution of red hair has already been noted in the last section. The class is almost uniformly distributed throughout Scotland. Three probable causes of its occurrence were stated in the section referred to. Whether any of these are valid must be determined by investigation, but the fact remains that the distribution of the class widely differs from the distributions of the other classes.

The occurrence of red hair is certainly not confined to modern times, neither is it peculiar to any social circle. It has occurred in the past as a becoming feature in princes and among the people. It is an inherited trait in many distinguished families. Is it that here one has a case of exclusive inheritance, and therefore that cases of red hair occurring in families none of the parents of which belong to the class, are reversions? Such observations as have been made point to this conclusion, but a larger mass of data is wanted to prove or disprove this view.

It is a curious circumstance that significant excess of the class should be found occurring in the historic home of the opponents of Agricola. The solitary reference of Tacitus to the red-haired Caledonians who inhabited Scotland north of the Grampians deserves a passing notice. Taking the general impression of Tacitus as indicated in his statement "Namque rutilae Caledoniam habitantiam comae, magni artus, germanicam originem asseverunt" to mean that the northern Scottish people in his time were mostly red-haired in our sense and appeared to have a North European origin, it is perfectly obvious that the North of Scotland has changed most markedly, as one should expect it would have, in the long interval between his time and the present day. Not more than 5·49 per cent. and 5·09 per cent. respectively of the boy and girl populations of Scotland are red-haired. It is curious to note, however, that the greatest excess of red hair from this proportion *is found* in the region of Scotland north of the Grampians. While this is the case one must remember that the actual proportion of red-haired persons anywhere in the north is really a small one. Only a small proportion, ranging from 5 to 7 per cent., taking fairly large areas, is at the present day red-haired. But if the observation of Tacitus has any truth in it at all, is it fair to infer, since hair colour is an inherited character, that this small class has for a considerable portion of its ancestry the race found in North Britain in later Roman times? One must not come to the hasty conclusion that there was in reality an exclusively red-haired race in Scotland or anywhere else. Indeed, no such exclusive race now exists. But at the present time one finds red hair occurring in all the North European races more or less. That is to say, the

English, Irish, French, German, Danish, Dutch, Belgian, Norwegian and Swedish speaking peoples, at least, have all of them certain proportions of the red-haired class in their respective populations. It thus appears that in every Northern race there is likely to be a certain proportion of the red-haired class. A moderate proportion (5 per cent.) is found in Scotland generally, and all one can meantime say therefore is that it is a characteristic of one-seventeenth of the population of the north-east of Scotland to have red hair; or *that that population, observed in early time to have red hair, has a significant excess of that class over the general proportion found in the country at the present time.*

III. *Relationship between Gaelic speaking Population and Pigmentation.* As already indicated, one cannot open a discussion as to the origin, distribution and characteristics of the Keltic and non-Keltic portions of the population. Nothing germane to this investigation would be solved by it. Authorities differ greatly as to the facts. One could by an analysis of the colour characters of the population with respect to surnames, Highland, Lowland and otherwise, throw a little light on that portion of the Keltic problem bearing on colour. This has already been done by the writer for the populations of Aberdeenshire of 1696 and 1896*, and he proposes at some future time to table the data now collected for the whole of Scotland in a similar way. What can be done, however, is to investigate the characters of the Gaelic speaking portion of the population as compared with the non-Gaelic speaking and greater portion, and note whether they are really different or not. Here one is on safe ground. The problem of the ethnic descent of the Gaelic speaking and non-Gaelic speaking portions of the population the writer leaves untouched. But he proposes to note whether there is any particular association of colour with the Gaelic speaking population. In the Report on the Scottish Census of 1901†, the number of "Gaelic and English" speaking persons above three years of age is given for each division of Scotland. The percentages of Gaelic and English speaking persons in the eight divisions of Scotland can thus be found and compared with the corresponding percentages for hair colour and eye colour found from the results of this survey. The correlation coefficients were determined in the following manner:—Let x_1 = deviation from mean percentage of the Gaelic speaking population; x_2 = corresponding deviation from the mean percentage of children belonging to any colour class; σ_1 = standard deviation of percentage of the Gaelic speaking population; σ_2 = standard deviation of the percentage of children belonging to colour class s; and N = number of the divisions into which Scotland is divided; then the correlation coefficient is:

$$r = \frac{\Sigma x_1 x_2}{N \sigma_1 \sigma_2},$$

and determines the degree of association or correlation between the Gaelic speaking population and the colour class s. Taking as an example s = jet black hair, the following table (Table XXX.) was formed:—

* *British Association Report*, Cambridge, 1904, p. 707.

† *Eleventh Decennial Census of the Population of Scotland with Report*, Vol. 1. Table XV. p. xxviii.

TABLE XXX.

Division		Gaelic speaking Population x_1	Jet Black Hair x_2
I.	N.	4·82	·30
II.	NW.	39·17	·79
III.	NE.	− 9·30	− ·25
IV.	EM.	− 8·35	− ·10
V.	WM.	1·73	·08
VI.	SW.	− 8·57	− ·20
VII.	SE.	− 9·35	− ·38
VIII.	S.	−10·15	− ·22

An inspection of this table reveals the fact that in *every* division where there is an excess of the Gaelic speaking population there is an excess of the jet black class, and *vice versâ*. The values of the correlation coefficient r and its probable error in the particular case when $r = 0$, or $E_{(r=0)}$, have been evaluated for all the colour classes and the Gaelic speaking population with the following result (Table XXXI.). The ratio $r/E_{(r=0)}$ shows how much the correlation found exceeds the probable error when r is equal to zero.

TABLE XXXI.

Correlation of Hair and Eye Colours with Gaelic speaking population.

Colour Class	r	$\frac{r}{E_{(r=0)}}$
Fair Hair ...	·3482	1·37
Red Hair ...	− ·3027	−1·19
Medium Hair ...	− ·8663	−3·40
Dark Hair ...	·8126	3·19
Jet Black Hair ...	·9581	3·76
Blue Eyes ...	·8663	3·40
Light Eyes ...	− ·1248	−0·49
Medium Eyes ...	− ·8760	−3·44
Dark Eyes ...	− ·6387	−2·51

This result is of some importance. It shows definitely for the first time the general nature of the colour characters of the Gaelic speaking as against the non-Gaelic speaking population of Scotland. It proves that the proportion of dark-haired and jet black-haired persons is far greater among the Gaelic speaking than among the non-Gaelic speaking population. In technical language, dark hair and jet black hair are positively correlated to the Gaelic speaking population. The association is clear, and the result ought to be of assistance to the student of the Keltic race. The above table also shows that blue eyes are associated with the Gaelic speaking population, the association being slightly

greater than in the case of dark hair, and nearly as great as in the case of jet black hair. The odds against a less correlation than that found are so great as to warrant the conclusion that blue eyes are far more common where Gaelic is spoken than where it is not. Medium eyes are distinctly correlated negatively to the Gaelic speaking population. One may safely conclude that medium eyes are rarer in Gaelic speaking regions than in the rest of the country. Medium hair, and in a lesser degree dark eyes, are also negatively correlated to the Gaelic speaking population, the correlations being appreciable in each case, but fair hair, red hair and light eyes are present in practically the same proportions in both the Gaelic and non-Gaelic speaking populations. Thus, on a direct survey of the Gaelic speaking population, one would expect the group to be much darker in hair colour and more blue eyed persons would be expected among the Gaelic speaking than in the remaining population, the excess being accompanied by lesser proportions of medium hair and medium eyes and also dark eyes. No sensible differences would be expected in the fair-haired, red-haired, and light-eyed classes compared with the general population. The definite relationship between the Gaelic speaking population and certain colour classes now established, enables one to interpret more fully the meaning of the significant differences in the western portion of Scotland. In Table XXX. it is seen that the North-Western, West-Midland and South-Western divisions are the only ones in which there is an excess of Gaelic speaking persons over the general average. In these divisions about 65 per cent. in Sutherland and about 50 per cent. in each of the counties of Ross and Cromarty, Inverness and Argyll speak Gaelic. So far as hair colour is concerned, all these counties show great excess of dark and jet black hair. This excess is therefore due mainly to the Gaelic speaking populations in these counties. Light eyes, although in excess in Argyll, are neither peculiar to the Gaelic speaking population nor to the non-Gaelic speaking population, since the value of the correlation coefficient is a very small one. The one group is likely to have as large a proportion of light eyes as the other. But blue eyes are associated even more intensely with Gaelic speaking people than dark hair, and this class is in excess in Sutherland, Ross and Cromarty, Inverness and the Western Isles. A fairly large proportion of the dark-haired Gaelic speaking people have therefore blue eyes. In these counties, however, fair hair is also in excess, and since the Northern Isles, Orkney and Shetland, are characterised by a large excess of fair hair and blue eyes and by an exceedingly small proportion of Gaelic speaking people, one would infer that blue eyes are largely associated with fair hair in the non-Gaelic portion of the population of these counties as well. Thus these counties consist of a mixture of fair-haired, blue-eyed, or blonde non-Gaelic speaking population (or if Gaelic speaking, at least of non-Keltic origin) and a dark-haired Gaelic speaking population. The distribution of eye colour in this latter population is unknown, but all classes of eyes are most probably represented, a fairly large proportion of blue eyes being quite certain.

IV. *Relationships between Pigmentation, Density of Population, and Foreigners.*

In the Census Report already referred to, the number of persons per square mile is given for each of the eight chief divisions of Scotland*. The means are at hand therefore to compare the density of the population with pigmentation. With regard to the foreign element, one would naturally come to the conclusion without examining the actual data that foreigners are likely to be found in the more densely populated areas of the country. Business leads them to where the industries are and therefore to where closely packed populations reside. It is desirable therefore that any correlation existing between the two should be measured. The association has been measured from two sets of data. The degree of correlation has been determined (1) between foreigners and density (number of persons per square mile), and (2) between foreigners and the number of families (α) living in one and two rooms, (β) living in three to nine rooms, and (γ) living in ten rooms and upwards. The correlation coefficients were calculated from the following table (Table XXXII.):—

TABLE XXXII.

Division	Persons per square mile	Number of families living in (per 1000 of each division)		
		One and two rooms	Three to nine rooms	Ten rooms and upwards
I.	31	535·8	440·4	22·5
II.	23	490·9	468·3	40·6
III.	127	394·3	569·4	36·3
IV.	166	549·8	419·0	31·1
V.	87	552·5	408·6	38·8
VI.	827	686·4	296·2	17·3
VII.	363	530·7	422·1	47·2
VIII.	62	376·9	562·9	60·2

The following table (Table XXXIII.) gives the population, the number of foreigners, and the number per 1000 of the respective populations, of each division in Scotland:—

TABLE XXXIII.

Division	Population	Foreigners	Number of Foreigners per 1000	Deviation from mean per 1000
I.	112175	147	1·3105	−1·6643
II.	166554	124	0·7445	−2·2303
III.	460941	621	1·3472	−1·6276
IV.	665215	1515	2·2775	−0·6973
V.	348585	1044	2·9950	0·0202
VI.	1862775	15062	8·0858	5·1110
VII.	662415	3888	5·8694	2·8946
VIII.	193443	226	1·1683	−1·8065

* *Eleventh Decennial Census*, Appendix Tables, p. xxxv.

The last column in above table has of course to be compared with each of the values for the various classes of hair colour and eye colour and with the density figures. The values of r, the correlation coefficient, and r/E_r are given in the following tables (Tables XXXIV. and XXXV.):

TABLE XXXIV.

Foreigners and Density.

Correlation between	r	$\frac{r}{E_r}$
Foreigners and Density	·9456	37·46
„ and Number of families in 2 rooms and less	·7555	7·38
„ and Number of families in 3 to 9 rooms	−·7793	−8·32
„ and Number of families in 10 rooms and upwards ...	−·3362	−1·77

These results are interesting. They show that foreigners tend (1) to reside in most densely populated areas, (2) to reside in districts where families live in one room or two rooms, and (3) not to reside as a rule in districts where families live in three to nine rooms. There is not a very decided tendency against their residing where families live in large houses with many rooms.

The following are the results of the comparison between foreigners, density and pigmentation:

TABLE XXXV.

Correlations between Density of Population, Foreigners and Pigmentation.

Colour	Density		Foreigners	
	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$
Hair:				
Fair ...	−·805	3·16	−·788	3·09
Red ...	−·001	·005	−·093	·37
Medium ...	·716	2·81	·757	2·97
Dark ...	−·195	·77	−·243	·95
Jet Black ...	−·460	1·81	−·497	1·95
Eyes:				
Blue ...	−·612	2·40	−·668	2·62
Light ...	·090	·35	·219	·86
Medium ...	·560	2·19	·523	2·05
Dark ...	·533	2·09	·514	2·02

The striking feature in the above table is the great similarity in the results in comparing foreigners with pigmentation and density with pigmentation. The results show the futility of attempting to draw any conclusions as to the probable predominant colour classes of foreign immigrants from these tables since the

correlation between foreigners and density is exceedingly high. It is certainly the case that foreigners coming into this country live in districts in Scotland having on an average distinctly greater proportions of medium haired, medium eyed and dark-eyed persons among their number than that found for the general population. But these are just the classes which are in excess in densely populated parts, and foreign immigrants reside for the most part in these denser centres. One cannot therefore say from the foregoing whether the foreign immigrants have large proportions of these classes among their number or not. It is not known what the proportions are. It has simply been proved that they are associated with densely populated centres in Scotland. The colour characters of the immigrants themselves must be investigated. The effect of the foreign element in the population will be considered in detail in the special section on Glasgow and environs.

The subsection can be summarised as follows:

{Foreign Immigrants} on reaching this country tend to reside in {Densely Populated Areas} where (among school children) excesses are found of the following classes, namely: {Medium Hair, Medium Eyes, Dark Eyes}

V. *Relationship between Pigmentation and the Death Rate.* It is stated by Pearson* that there is a positive correlation between fairness and disease in childhood. It has long been known that there is a correlation between density of population and the death rate not due directly or mainly to the crowding of persons together but to the association with density of filth, poverty, drunkenness and the like. Russell has shown the correlation between the size of house and the general death rate†. Newsholme‡ pointed out in 1891 that the true test of density is a statement of the number of persons living in each occupied room. Applying any test of density, the correlation between it and the death rate is high, using Scottish figures. Taking for instance the number of persons per square mile, the correlation

TABLE XXXVI.

Correlation between Density of Population and Death Rate in Scotland.

Division	Deviation from mean number of persons per square mile	Deviation from mean Death Rate
I.	−179·75	−1·240
II.	−187·75	− ·078
III.	− 83·75	−1·012
IV.	− 44·75	·138
V.	−123·75	− ·275
VI.	616·25	2·450
VII.	152·25	·315
VIII.	−148·75	− ·297

* Pearson: *Biometrika*, Vol. III. p. 465.

† Russell: *Proceedings of Glasgow Philosophical Society*, Nov. 1888.

‡ Newsholme: *Journal of Royal Statistical Society*, Feb. 1891.

was found to be $r = \cdot 9125$ from the accompanying table (Table XXXVI.). Diagram XIX. shows graphically the connection between density and other characteristics in the population.

Thus the association is very high. It will be of interest now to note what relationship, if any, exists between colour and the death rate. The following results were obtained (Table XXXVII.).

TABLE XXXVII.

Correlation between Death Rate and Pigmentation.

	r	$\frac{r}{E_{(r=0)}}$
Hair:		
Fair ...	−·806	−3·16
Red ...	−·347	−1·36
Medium ...	·567	2·23
Dark ...	·064	·25
Jet Black ...	−·252	− ·99
Eyes:		
Blue ...	−·488	−1·91
Light ...	·226	·89
Medium ...	·284	1·11
Dark ...	·410	1·61

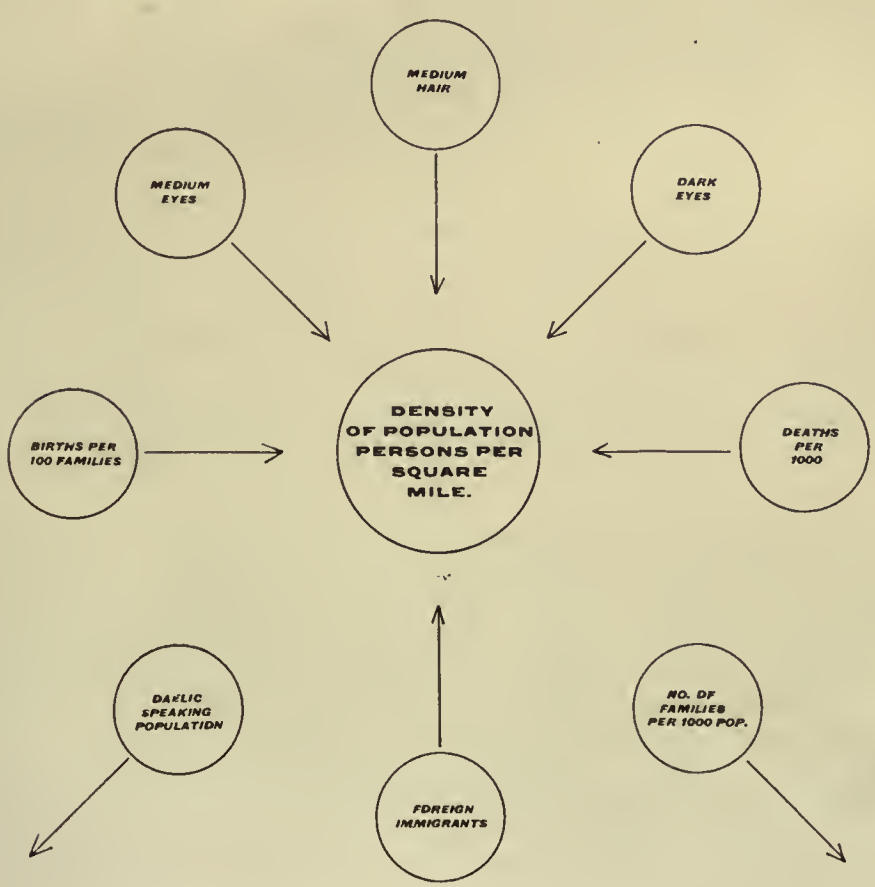
This result, a positive correlation between the death rate and medium hair, and another between death rate and dark eyes, was to be expected, since density is similarly associated with colour. The denser the population is the greater is the death rate; the denser the population is the greater is the excess of medium hair; therefore the greater the excess of medium hair, the greater the death rate. (1) Is it to be concluded that medium haired or dark-eyed people are less virile and cannot stand the strain of city life? (2) Must one say that the blue-eyed fair-haired classes have been all killed out in densely populated areas since they have less resistive power and it is now the turn of the darker section of the population who now presumably show greater mortality? (3) Or must it be said that the conditions of town life are such as to cause a larger section of the fair-haired class to become so much more sensibly darker in towns than in rural districts so as to be classed as medium or brown? There is a darkening in the fair-haired class with age; that much is well known. Is the darkening more intensely operative in towns, and why? (4) If not, can any explanation be offered as to why medium hair colour is associated positively with density and thus with the death rate—why a proportion of medium haired persons much above the average live in more densely populated parts (and are thus of the poorer class) where mortality is higher than the average? An attempt will now be made to answer these questions so far as they can be answered, seriatim.

VI. *The probable Cause of the Association of the Medium or Brown Haired Class with Density of Population.* It cannot be said from the data of this survey

what colour class is more virile than another or whether there is any difference among the classes. Is such an hypothesis necessary? This question is put, because it can be quite easily seen that if there is a large proportion of the medium class living in very densely populated areas, deaths among medium haired persons will be more frequent there than in the rest of the country. But this does not explain why medium haired persons are in excess in densely populated parts. No reason is known why darkening with age should be more intense in densely populated centres, but it is a possible explanation of the excess of medium in these centres and the hypothesis should be proved or disproved by observation. If there was any special force tending to send medium haired and dark-eyed persons in from the country to towns, that would explain the excess. But no such force is known to exist. If foreign immigrants had a high percentage of medium hair this might be a factor, but foreigners coming into this country are, on an average,

DIAGRAM XIX

Relationship between Density and the other characteristics of the Scottish Population



darker-haired* than the Scottish population. With a less proportion of medium hair than that occurring in this country, the foreigners—a handful compared with the total population of towns—could have no effect in this direction. They are likely, from actual observations, to have an effect in *very* densely populated areas in the direction of darkness of hair and dark eyes. If Irishmen and Englishmen were browner-haired on an average than Scotchmen, and if it was proved that a high proportion of them lived in densely populated areas of Scotland, this would be an important factor and a probable explanation. It is true that, at any rate in Glasgow, the Irish are found in large numbers, but from the results of this survey (see Glasgow section—Irish children) and the results given by the pioneer observer of colour in this country, Beddoe†, Irishmen have no greater proportion of the medium class on an average than Scotchmen. Beddoe's statistics for England have also been tabulated and a general percentage evaluated. The English appear on an average to be no browner-haired than the Scot. Both indeed seem likely to have a less proportion of this class. Pearson's statistics for English boys show that they are fairer than Scottish boys. There seems however to be a higher proportion possessing jet black hair.

The following table (Table XXXVIII.) shows the colour distributions of English, Scottish, and Irish populations, as at present known.

TABLE XXXVIII.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
(1) Irish	10·4	4·6	33·4	40·5	11·0	—	66·5	14·7	18·6
(2) English, North of England	21·3	5·8	41·6	28·6	2·6	—	60·5	14·7	24·7
(3) Scottish Adults, Probable Distribution	11·5	4·2	55·9	28·4	—	—	27·8	45·9	26·3
(4) Scottish Boys, Actual Observation	25·0	5·5	43·3	25·0	1·3	14·7	30·3	32·7	22·3
(5) Irish Boys, Glasgow ...	22·1	5·1	35·1	33·1	4·6	21·2	26·0	28·4	24·4
(6) English Boys	33·5	4·1	34·0	26·5	1·9	—	41·5	37·0	21·6

The figures for the Irish and English populations are derived from Beddoe's tables†. The figures for Scottish adults are the author's, deduced from results from the Aberdeenshire adults and Scottish school children‡. The figures for Scottish boys are from the present data; those for Irish children are also from the present data. Pearson's figures are taken from the Fourth Huxley Lecture§. The table is not intended to represent the *actual* distributions for the three kingdoms, but merely to show that the excess of medium hair found in Scotland is not

* See actual results in section on Glasgow; also Livi and others on Italians, Jews, Russians, etc.

† Beddoe: *Races of Britain*, pp. 188, 189; and pp. 160 et seq.

‡ *Biometrika*, Vol. v. pp. 341, 342.

§ *Journ. Anthrop. Instit.* Vol. xxxiii. 1903, pp. 214, 215.

likely to be from Irish or English sources. The presence of neither foreigners, Irishmen, Englishmen, nor of brown-haired immigrants from rural districts at home (although they might contribute a little) can explain the excess of medium hair. None of these groups are likely to have contributed; it has been proved, in short, that they do not. Having considered among others the effect of the presence of persons of a non-Scottish origin—the effect of a section of the population proved to be present whose origin is forth of Scotland—and shown it to be inappreciable or non-operative, one must conclude that the cause has an internal origin and is not derived from an external source. It must be something operating within the Scottish population itself. What factor is operating within Scotland producing an excess in densely populated areas of the various shades of brown hair classed as medium?

One or more of at least three factors might possibly operate and provide the explanation.

(A) *Darkening among the fair-haired might occur earlier in towns and might be more intense.* No grounds exist for this explanation. It is purely hypothetical and requires investigation. (B) The medium class might be the most fertile. Since this class is correlated with density of population, since the lower classes live in the densely populated areas, and since it has been shown that the lower classes are the most fertile, one might conclude that the medium class is the most fertile of the fertile lower classes. If true, this would explain the excess. (C) The excess might be due to the effect of blending of the fair and dark classes of the population.

With regard to (A) until observations from towns and rural districts, bearing on this, are calculated, the truth or otherwise of the hypothesis cannot be verified. The pigmentation survey returns contain no data capable of furnishing the means of testing this hypothesis.

(B) *The probability of the medium haired class being the most fertile.* Comparing the number of births per 100 families (calculated from the figures of the Census Report—the only data at present available to estimate the relative fertility in the various divisions of Scotland) with density of population, the value of the correlation coefficient was found to be

$$r = \cdot 782 \pm \cdot 093\,;\ \text{and}\ \frac{r}{E_r}\ \text{thus} = 8\cdot 44;\ \text{and}\ \frac{r}{E_{(r=0)}} = 3\cdot 08.$$

That is to say, births per family are greater in number in more densely populated areas than in sparsely populated parts*. Of course this does not give the measure of true fertility. To get this, one would require to get a return of the number of wives for each division, whose ages are within the childbearing range, and compare

* On the other hand on comparing the number of families per 1000 of the population with density of population the correlation was found to be negative ($r = -\cdot 6109 \pm \cdot 1495$). This does not necessarily mean that in towns the families are larger. The large population of young men and women employed in industries and otherwise and drawn from less densely populated areas contribute largely, if not mainly, to the result.

this with the number of births in each division. The value, $r = \cdot 782$, cannot be taken as the true measure unless the ratio of the number of possibly fertile wives to the number of families is quite approximately the same in each division. The correlation, however, between the number of births per family and density of population is so high as to warrant the conclusion that fertility is really greater among the inhabitants of densely populated areas. Since the more densely populated centres are occupied by the lower classes, this is tantamount to saying that the lower classes are more fertile than the remaining section of the population, a conclusion already reached by several observers. Let now the number of births per family, in each division, be compared with the pigmentation data. The following results were obtained:

TABLE XXXIX.

Correlation between Pigmentation and Births per Family.

Colour	r	$\frac{r}{E_{(r=0)}}$
Hair:		
Fair ...	−·936	−3·67
Red ...	−·043	−0·17
Medium ...	·727	2·85
Dark ...	−·059	−0·23
Jet Black ...	−·504	−1·98
Eyes:		
Blue ...	−·775	−3·04
Light ...	·386	1·51
Medium ...	·671	2·63
Dark ...	·292	1·15

These results show that the number of births per family is greater where there are excesses of medium hair and medium eyes and is much less in regions of excess of fair hair and blue eyes. Now these results are similar to those obtained in comparing density of population with pigmentation except that dark eyes are significantly associated with density, but not with the birth rate per family. Thus the lower class population is associated with a higher birth rate per family and with an excess of medium hair and medium eyes over the general population. Is one to say that the medium haired, medium eyed classes are as a whole more fertile over the whole country; or are only those sections of them living in more densely populated parts (i.e. working class sections of these classes) the more fertile? That question cannot be answered from the present data, but it can be said that the medium haired, medium eyed and populous lower classes are more fertile than the remaining population, and this factor is probably operating in favour of producing distinct excess of these classes in the more densely populated areas of Scotland where they are found.

(C) *The probability that excess of medium hair in dense centres is due to blending.* Consider first a population consisting of more or less isolated groups of

fair-haired and dark-haired people living in sparsely populated regions. The chances of conjugal union of persons of the same colour class, if the mating occurs at random or is pangamic, are greater than if they lived all together as one group in a densely populated town. In the past, more unions between persons of the dark-haired class (for instance, in the west coast) were likely, on the assumption that mating occurred purely at random, to occur than between them as a class and the fair-haired class. Similarly, isolated groups of the fair-haired class would have more unions among themselves than with the smaller dark-haired groups. On the other hand, however, wherever towns sprang up, the different classes would be brought more in contact with one another and the chances of union among all classes with one another would be greater. But does mating actually occur purely at random? That is to say, taking the character here considered, hair colour, does the fair-haired class, for instance, select mates indiscriminately from the other classes or do they tend to mate more with members of their own class? Similarly, taking eye colour, what is the nature of the mating? Pearson* has shown that, for certain measurable characters, like tends to mate with like; that is, assortative or homogamic mating exists. For eye colour he has shown that both homogamic and preferential mating exist. Can one say with respect to hair colour whether the mating is homogamic, preferential or pangamic? In the past, with isolated groups and with the clan system in vogue, endogamic mating would certainly exist and be a powerful factor in determining the prevailing colour characters. Thus one would expect at the present day to find a section of the population in the Highlands with characters distinctly different from another section, and this, one finds, is the case. Different race or clan groups have married within the race or clan and retained the ancestral characters. But endogamic mating can now no longer be a powerful factor, except in isolated cases, since greater intermixture and greater dispersal of the population now occur than was ever possible in the past. Retaining this form as possibly contributing, and remembering that mating of unlikes (conjugal union of say a member of the jet black class with a member of the fair-haired class) is also quite possible, the five possible forms emerge, namely:

Homogamic = like with like;
Endogamic = members of the same clan;
Preferential = preference for a certain colour;
Heterogamic = mating of unlikes; and
Pangamic = random.

Now while it has been shown that inheritance of eye colour is more of the exclusive form than of the blended form, is it more likely that hair colour (except perhaps red hair which has been already noticed) is a case of blended rather than of exclusive inheritance? As yet there are no statistics from which the intensity of blending can be directly proved or disproved. One can only advance the theory that blended inheritance prevails largely in hair colour, and see whether it explains the excess of medium hair in densely populated centres. Blended inheritance in

* Pearson and Lee: *Biometrika*, Vol. II. pp. 357—462; and pp. 481—498; and many others.

hair colour certainly exists, although no statistics are forthcoming to prove its intensity. The average observer will have noticed that the offspring of parents, one fair and one dark, are not uniformly fair and dark, but have also on an average among their number members of the brown-haired or medium class. What the proportions of each are, on an average, will be revealed by observation. What form the distribution takes does not affect the argument. Granted that pangamic mating (not excluding other forms) now exists for hair colour among the Scottish people and granted blended inheritance as probably occurring as one of the results, and the phenomenon of regression will appear in hair colour. The colour of future generations of offspring will tend to become brown-haired and in a few generations a brown type will be established breeding true to itself. Thus in densely populated areas where greater opportunities for random mating exist, a greater proportion of medium hair will arise, granting blending of hair colour as an appreciable factor, but not of course debarring exclusive and even particulate inheritance as operative as well. This alone, or together with the suggested greater fertility of the medium haired class, would explain the excess of medium hair found in densely populated areas particularly in and around Glasgow, an excess which is not explainable by the presence of non-Scottish or Scoto-Keltic elements in the population. As has been said before, it cannot be proved from the present data what is the cause of the excess, and the foregoing is only the probable explanation. The proof or otherwise of the validity of the theory will be forthcoming when the results of direct observations on parents and offspring have been made, tabulated and analysed.

VII. *Colour classes which are associated geographically.* (α) *Hair classes which are associated with one another.*—The theory that brown hair is really a blend of fair and dark is supported by the fact that throughout the country excess of the class is not generally associated with excess of other hair colour classes. In order to determine the extent of the association of excesses and otherwise of the various colour classes, the percentages of all the classes were compared with one another and the correlation coefficients determined. The following table (Table XL.) gives the numerical values of the correlations of each class with all the other classes. One must be careful as to the meaning of the result. Association of excesses of fair hair and blue eyes (a positive correlation) does not necessarily mean from this portion of the analysis that the blonde type predominates in the region of excess. All the analysis tells one is that regions of excess of fair hair are also regions of excess of blue eyes. This will be evident when one considers the other associations with fair hair. Examining the table it will be seen that regions of excess of jet black hair are also generally regions of excess of *fair* and *dark*. This combination could not obviously occur in the same person. Regions of excesses of fair and dark indicate the presence of two types—a heterogeneous and not a homogeneous population. On the other hand, examine the column indicating the associations with excess of medium hair. *Excess of medium hair as a rule is associated with excess of no other colour class.* The negative correlations

show that regions of excess of medium hair are *not* regions of excess but of defect of dark and jet black hair. This would seem to indicate a greater approach towards fusion of the fair and dark types in more densely populated centres and the consequent gradual disappearance of these types to form the medium (brown or dark brown) type. There is no bias for or against the presence of red as a class with excess of medium hair. *Excess of red hair is found as a rule only in regions where the proportion of the dark-haired class is well below the average.* A slight excess of fair is associated with excess of red. The probable reasons for these positive and negative associations will not be further entered into here. Sufficient evidence has not yet been accumulated to explain the differences with regard to pigment and matrix in human hair*. The present grouping of the shades into five classes is based on the general appearance of hair in the mass. The problem generally is one on inheritance, but the material to solve the problem comes from divers sources, chemical, microscopical, biological, statistical. Until this material is collected and dealt with, no explanation of any great weight from a scientific point of view can be given, particularly as to the shades of red hair, although several quite plausible theories can quite easily be advanced. One must therefore be content to state the bare facts as they emerge from the statistical analysis. It does not appear to be an insoluble although perhaps it is a somewhat difficult problem. When more light is obtained the explanation will be forthcoming.

(β) *Eye classes associated with one another.—Excess of dark eyes in densely populated centres.* The only class which is not positively associated significantly with any other class is the class of light eyes. Excess of light is negatively associated with blue and dark. Where light eyes are in excess, blue and dark eyes are not likely to be so, but the reverse; there is likely to be a defect of these classes. Excess or defect of light eyes is not connected with any excess or defect of medium eyes. Excess of blue eyes is as a rule associated with defects in the frequencies of the other classes of eye colour. Excess of dark eyes accompanies excess of medium and defect of the other two, light and blue. So that, broadly speaking, it is found that excess of blue eyes is found alone, excess of light eyes is found alone and excesses of dark eyes and medium eyes occur together. This is an interesting result, since it has been shown by both Galton and Pearson that exclusive inheritance prevails in the dark-eyed class. That is to say, the offspring for example of parents one dark-eyed and the other light-eyed or blue-eyed are, as a rule, either dark-eyed or light-eyed or blue-eyed. Medium eyes do not usually appear from such unions. There is no evidence as yet as to the blending or otherwise of the three classes, blue, light and medium. But since the offspring of parents, one dark-eyed and the other medium eyed, are likely to be either dark-eyed or medium eyed, unions among the two classes for generations would have no appreciable effect on the eye colour of the offspring, and therefore, as the results of

* The chemical and microscopical aspects of the problem of hair colour will be dealt with by the author in another memoir.

this investigation show, one would still have the two classes, just as though there had been no intermarriages in these classes at all. Pearson* has shown that preferential mating is likely to be operative against the dark-eyed class and he also shows from Galton's data that they are more fertile under their present environment than say the light-eyed. The results of the present analysis do not tend to confirm this (see Table XXXIX.), but it must be remembered that the comparison was not made between births with respect to possibly fertile wives and pigmentation, but between births per family and pigmentation. Thus, with

TABLE XL.

Association of Colour Classes in the same Regions.

Values of r the correlation coefficient.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Fair ...	1	·3074	−·6916	−·0867	·3733	·7207	−·3044	−·5786	−·4233
Red ...	—	1	·0873	−·5881	−·3414	·0324	−·3966	·3858	·0022
Medium ...	—	—	1	−·6459	−·9039	−·9431	·2273	·8563	·6874
Dark ...	—	—	—	1	·8443	·5075	·1166	−·6295	−·5110
Jet Black ...	—	—	—	—	1	·8728	−·2565	−·8211	−·5200
Blue ...	—	—	—	—	—	1	−·4329	−·8226	−·5429
Light ...	—	—	—	—	—	—	1	−·0905	−·4290
Medium ...	—	—	—	—	—	—	—	1	·6991
Dark ...	—	—	—	—	—	—	—	—	1

TABLE XLI.

Classes, excesses of which are found together in the same regions.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Hair:									
Fair ...	—	+	—	—	+	+	—	—	—
Red ...	+	—	—	—	—	—	—	+	—
Medium ...	—	—	—	—	—	—	—	+	+
Dark ...	—	—	—	—	+	+	—	—	—
Jet Black ...	+	—	—	+	—	+	—	—	—
Eyes:									
Blue ...	+	—	—	+	+	—	—	—	—
Light ...	—	—	—	—	—	—	—	—	—
Medium ...	—	+	+	—	—	—	—	—	+
Dark ...	—	—	+	—	—	—	—	+	—

The rows or columns show for any one class what other classes are associated with it.

* Pearson: *Phil. Trans.* Vol. 195, pp. 79—150; and *Grammar of Science*, 1900; page 428.

the proper data, it is possible that the *positive* association may become a *significantly positive* one. Since excess of dark eyes in the Scottish population has been here shown to occur in densely populated parts, the dark-eyed class here at any rate belongs largely to the poorer section of the population. But the lower classes are more fertile than the upper classes. If the dark-eyed portion of the lower classes is more fertile than the remaining portion, and if a selective death rate does not operate against the dark-eyed, this would go far to explain the excess of dark eyes in densely populated parts not explainable by the presence of foreigners or of migrants from contiguous rural areas.

VIII. *Relationships between Pigmentation and Physical and Mental Defects.* In a recent memoir*, already referred to, it was shown, using the division analysis results of the present data, that cases of insanity were in excess of the mean in areas where there was an excess of light eyes in the population. The enquiry has been extended in order to note whether excess of any particular hair colour or eye colour is associated with physical or mental defects such as blindness, deafness and imbecility. The following results were obtained, the results for insanity cases being included. The figures used in comparing the results were taken from the Census Report 1901.

TABLE XLII.

Relationships between Pigmentation and certain Defects or Affections.

Hair Colour.

Defect or Affection	Fair		Red		Medium		Dark		Jet Black	
	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$
Insanity ...	−·024	−·10	−·582	−2·28	−·128	−·50	·340	1·33	·084	·33
Imbecility or Feeble-mindedness ...	·608	2·38	−·213	−·83	−·942	−3·69	·672	2·63	·893	3·50
Blindness ...	·565	2·22	·006	·02	−·868	−3·40	·546	2·14	·885	3·47
Deafness ...	·300	1·18	·054	·21	−·707	−2·77	·572	2·24	·789	3·10
Deaf and Dumb ...	·126	·49	·148	·58	−·136	−·53	−·026	−·10	·273	1·07

Eye Colour.

Defect or Affection	Blue		Light		Medium		Dark	
	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$	r	$\frac{r}{E_{(r=0)}}$
Insanity ...	−·072	−·28	·695	2·73	−·322	−1·26	−·482	−1·89
Imbecility or Feeble-mindedness ...	·841	3·30	−·253	−·99	−·753	−2·96	−·547	−2·15
Blindness ...	·951	3·73	−·464	−1·82	−·775	−3·04	−·442	−1·73
Deafness ...	·819	3·21	−·386	−1·51	−·609	−2·39	−·489	−1·92
Deaf and Dumb ...	·309	1·21	−·453	−1·78	−·118	−·46	·149	·58

* *Biometrika*, Vol. v. p. 342.

These results show that the distribution of cases of mental affection differs from those of the three other classes of defects. Excesses in the number of cases of imbecility, blindness and deafness occur in regions of excess of blue eyes and dark and jet black hair. From the results of the enquiry into the relationship between the Gaelic speaking portion of the population and pigmentation, it was shown that these were the classes correlated positively with excess of Gaelic speaking people. The correlation between this portion of the population and the four groups were accordingly calculated when it was found to confirm the conclusion that the Gaelic portion was correlated positively to those groups as expected, as the following table (Table XLIII.) shows:

TABLE XLIII.

Relationship between the Gaelic speaking Population and Defects.

Defect or Affection	Value of r	$\frac{r}{E_{(r=0)}}$
Deaf ...	·865	3·39
Blind ...	·884	3·47
Imbeciles ...	·788	3·09
Deaf and Dumb ...	·295	1·16

From whatever cause, therefore, a significantly greater number of cases of imbecility, blindness and deafness occur in Gaelic speaking regions than occur throughout the country in general. Emigration of the fitter portion of the inhabitants from the west in greater proportion than from other parts of Scotland would explain the occurrence of larger proportions of cases of defect in the Highlands. It must not be concluded therefore that Gaelic speaking Scots on an average are in any way inferior physically to Lowland Scots—perhaps the reverse is the case—or that a really higher proportion of defects exist among the race or races which speak the Gaelic language.

(10) *Degree of resemblance between the Boy and Girl Populations in each of the Colour Classes.*

It has been seen in a general way that the boy and girl populations agree in many localities in showing excess or defect frequencies in the various classes compared with the general population, and in several cases it was found that the populations differed, excesses in one sex being associated with defects in the other and *vice versa*. It is necessary therefore that the difference between the two populations generally should be measured. It will be seen then which of the classes shows the greatest agreement and which the greatest difference, or whether there is any appreciable difference in the extent of association or independence of the two sexes as separate populations.

(α) The degree of resemblance between the boy and girl populations in the same localities was determined, using in the first instance the percentage figures as

found for the eight great divisions of Scotland. If x_m = deviation from the mean percentage of any class in any division for boys, x_f = the corresponding deviation from the percentage in the same division for girls, σ_m and σ_f the standard deviations of the respective percentage distributions,

$$r = \frac{\Sigma x_m x_f}{N \sigma_m \sigma_f}$$

and measures the general degree of resemblance between the boy and girl populations in the same division.

(β) In the second instance the values of the relative local differences found for counties and cities were used. If l_m = the relative local difference of any class for boys, and l_f = the corresponding relative local difference of the same class in the same locality for girls, then

$$r = \frac{\Sigma l_m l_f}{N \sigma_{l_m} \sigma_{l_f}}$$

and is a measure of the general resemblance between the boy and girl populations on the county and city basis of grouping.

(γ) In the third instance the counties alone were used, the cities being included in their respective counties while percentages were used as the basis, just as in the case of the great divisions. The following results were obtained:

TABLE XLIV.

Degree of Resemblance between the Boy and Girl Populations.

Colour	Values of r percentages Divisions	Values of r Counties and Cities—*RLD.*	Values of r Percentages Counties
Hair:			
Fair ...	·83	·83	·63
Red ...	·73	·68	·49
Medium ...	·93	·87	·74
Dark ...	·72	·68	·72
Black ...	·89	·71	·73
Average ...	·82	·75	·66
Eyes:			
Blue ...	·99	·95	·92
Light ...	·92	·86	·82
Medium ...	·85	·83	·79
Dark ...	·91	·91	·91
Average ...	·92	·89	·86

These results show that on an average any excess or defect in the boy population from the general mean in any locality is accompanied in about 70 to 90 per cent. of the cases by a corresponding excess or defect in the girl population and *vice versa*. The agreement is least in the case of red hair.

It may be of interest to point out that Tschepourkowsky has determined the mean resemblance between man and woman to be about ·8, the characters studied interracially being stature, relative arm length, cephalic index and four other measurable characters*.

(11) *The Colour Characteristics of the Population of Greater Glasgow and Environs.*

I. *Introductory.—Tables of classified data.* The city of Glasgow deserves special investigation for many reasons. (1) By far the largest in Scotland, the second city of the Empire contains one-fifth of the total population of the country. (2) Glasgow and the immediately adjacent counties, that is, Lanark, Renfrew, Ayr, Dumbarton and Stirling, contain one-half of the whole Scottish population. (3) Not only are these counties the most densely populated ones, but Glasgow itself greatly exceeds any Scottish town in the density of its population. (See Table LIII.) (4) The Census shows it to contain a much larger proportion of foreigners than any other town in Scotland. The Gaelic speaking population owing to its proximity to the Highlands is well represented. Ireland is also well represented. (5) Finally, it has been shown from the results of the present analysis that the great western city diverges in an extreme degree from the rest of Scotland not only in the distribution of hair colour of its school population but also in the distribution of eye colour, both for boys and girls.

The following table (Table XLV.) shows the observed and expected results for Glasgow and Govan and Glasgow proper, the expected results meaning of course those which would occur on an even distribution with respect to colour of the whole of the school children throughout Scotland.

TABLE XLV.

Glasgow and Govan.

Result	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Observed ...	17809	4179	36528	21809	965	9941	24661	27021	19667
Expected ...	21267	4308	34240	20478	997	11986	24644	26325	18335
The observed result compared with the expected one is ...	3458 less	129 less	2288 greater	1331 greater	32 less	2045 less	17 greater	696 greater	1332 greater

* *Biometrika*, Vol. IV. pp. 161—168.

TABLE XLV.—(*continued*).

Glasgow Proper.

Result	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Observed ...	12734	2984	25967	16042	716	6736	17634	19802	14271
Expected ...	15290	3094	24606	14734	719	8628	17714	18934	13167
The observed result compared with the expected one is ...	2556 less	110 less	1361 greater	1308 greater	3 less	1892 less	80 less	868 greater	1104 greater

From the foregoing table it is seen that there are about 3500 less than the expected number of fair-haired children, about 2300 more medium haired and over 1300 more dark-haired. There are 2000 less blue-eyed children than expected, about 700 more medium eyed and over 1300 more dark-eyed children. Such differences, even with the large numbers dealt with in Glasgow, have a definite significance and are not differences which would occur in making a random draw of the same numbers from the general population.

In the county and district analyses, Glasgow has been treated as a unit. The city has been contrasted as a whole with the neighbouring counties and also with the immediately surrounding population, a population which has been divided up into districts. In both cases, it has been shown to be unlike those outside populations. It seems highly desirable therefore to examine Glasgow from the inside in order to see what is the cause of the great difference; whether, analysed intra-locally, the population of the city is different in different parts of the city; and whether these various divisions agree with or differ from the surrounding suburban areas.

Under the School Board of Glasgow the city is divided into ten educational districts. The accompanying table (Table XLVI.) gives a list of the districts and their respective schools:

In order to have approximately equal numbers in the various areas dealt with by the author, Calton, Camlachie and Bridgeton were grouped into one pigmentation district; Tradeston, Gorbals and Hutchesontown, three other educational districts, were grouped into another pigmentation district. The following pigmentation districts were also constituted for the environs of Glasgow: North Suburban, South Suburban, East Suburban and West Suburban. The following table (Table XLVII.) shows how the pigmentation groups of Greater Glasgow were made up, while the succeeding table (Table XLVIII.) shows the actual frequencies of the various classes for these districts. The results of the analysis of these figures

TABLE XLVI.

Educational District. Name of School.

I. Anderston District.

1. Bishop Street.
2. Finnieston.
3. Overnewton.
4. Anderston.
5. Kelvinhaugh.
6. Kent Road.
*7. Glasgow High School.
8. Washington Street.

II. Milton District.

1. Dobbie's Loan.
2. Henderson Street.
3. Rockvilla.
4. Milton.
5. Garnetbank.
*6. Glasgow High School for Girls.
7. Kay.
8. Oakbank.
9. Grove Street.
10. Woodside.
11. St George's Road.
12. Springbank.
13. Napiershall.
*14. Pupil Teachers' Institute.
15. Dunard Street.
16. Willowbank.
*17. Woodlands Institute School (for Cripple Children).

III. St Rollox District.

1. Kennedy Street.
2. Springburn.
3. Keppochhill.
4. Freeland.
5. Martyrs'.
6. St David's.
7. Townhead.
8. Elmvale.
9. Provanside.
*10. Hydepark.

IV. Dennistoun District.

1. Wellpark.
2. St Rollox.
3. Dovehill.
4. Dennistonn.
*5. Whitehill.
6. Alexander's.
7. Petershill.
8. Rosemount.

Educational District. Name of School.

9. Alexandra Parade.
*10. Golfhill.
*11. Haghill.

V. Calton District.

*1. Tureen Street.
2. St James's.
3. Calton.

VI. Camlachie District.

1. Thomson Street.
2. Barrowfield.
*3. Parkhead.
4. Camlachie.
5. Campbellfield.
6. Annfield.
*7. Newlands.
*8. Quarrybrae.

VII. Bridgeton District.

1. Rumford Street.
2. Hozier Street.
*3. John Street.
4. Springfield.
5. Dalmarnock.
6. Queen Mary Street.
*7. Strathclyde.
8. Special School for Cripple Children.

VIII. Tradeston District.

*1. Centre Street.
2. Crookston Street.
3. Shields Road.
4. Sir John N. Cuthbertson.
*5. Scotland Street.

IX. Gorbals District.

1. Greenside Street.
2. Abbotsford.
3. Gorbals.

X. Hutchesontown District.

1. Rose Street.
2. Camden Street.
3. Oatlands.
*4. Mathieson Street.
5. Wolseley Street.
6. Adelphi Terrace.
*7. Hayfield.

* No returns were received from these schools.

are given in Tables XLIX. and L. (Table XLIX. Relative Local Differences and Table L. General Divergency). The results are also shown diagrammatically in Maps LV. to LXXVIII.

TABLE XLVII.

Name of Pigmentation Groups		Pigmentation Group embraces
I	Anderston	The Wards of Anderston, Broomielaw, Sandyford, Exchange, Blythswood, part of Park
II.	Milton	The Wards of Cowcaddens, Park (part of), Woodside (part of)
III.	St Rollox	The Wards of Townhead, Cowlairs (part of), Springburn (part of)
IV.	Dennistoun	Dennistoun Ward
V.	Calton, Camlachie and Bridgeton ...	The Wards of Calton, Whitevale, Milend, and Dalmarnoek
VI.	Tradeston, Gorbals & Hutchesontown	The Wards of Kingston, Gorbals and Hutchesontown
VII.	South Govan	All the Govan School Board area south of the river
VIII.	Partick	Partick; Kelvinside Ward
IX.	South Suburban District	The Parishes of Eastwood, Cathcart, Rutherglen and Cambuslang
X.	North Suburban District	The Parishes of Cadder, New Kilpatrick, Old Kilpatrick and Baldernoek
XI.	East Suburban District	The Parishes of Bothwell, Barony and Old Monkland
XII.	West Suburban District	The Parishes of Renfrew and Abbey (Paisley Burgh and Paisley landward)

II. *Analysis of Glasgow Data.* (α) *General Divergency in Colour.* (1) *Degree of General Resemblance of the various divisions of Glasgow to the General Population in Hair Colour.* It will be remembered that in the district analysis, the 13th district, Glasgow and Govan, exhibited the excessive divergencies from the general population as represented by $\log P = \overline{44}{\cdot}8$ for boys and $\log P = \overline{146}{\cdot}6$ for girls. In the county analysis the chief cities were treated separately from the counties and Govan was separated from Glasgow, when it was found that the values of $\log P$ fell—that is, less divergency was exhibited for Glasgow and Govan separately than for Glasgow and Govan together. Still the significance of the divergency was very great. Log P (boys) for Glasgow proper was $\overline{29}{\cdot}5$ and for Govan $\overline{16}{\cdot}9$. For girls the values were $\overline{120}{\cdot}0$ and $\overline{34}{\cdot}5$. Glasgow proper is thus much more divergent than Govan.

From the analysis of Greater Glasgow and environs, one is able to locate the areas of greatest divergency. Of all the pigmentation groups, the sixth group (Tradeston, Gorbals and Hutchesontown) stands out the most divergent in hair colour for both boys and girls. South Govan and Anderston follow a long way behind. From the fact that there is a large excess of medium and dark hair in the girl population, Calton, Camlachie and Bridgeton as a group is as greatly divergent as South Govan, but the boy population is quite a good sample of the

TABLE XLVIII.

Frequencies of the Colour Classes in the various Divisions of Glasgow.

BOYS.

	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Anderston	717	199	1654	960	34	414	1197	1073	880	3564
Milton	1161	322	2411	1322	51	626	1634	1739	1268	5267
St Rollox	741	160	1378	710	15	313	955	1028	708	3004
Dennistoun	825	196	1552	870	34	402	1082	1166	827	3477
Bridgeton Group	1320	286	2518	1448	61	605	1597	2088	1343	5633
Tradeston Group	1122	282	2842	1749	107	527	1829	2136	1610	6102
Partick	932	224	1947	986	49	723	1234	1251	930	4138
Govan South	1054	266	2408	1304	67	628	1554	1669	1248	5099
South Suburban Area ...	970	247	1936	1170	34	634	1283	1425	1015	4357
East Suburban Area ...	1373	293	2681	1493	68	732	1745	2178	1253	5908
North Suburban Area ...	981	267	2082	1121	39	505	1406	1566	1013	4490
West Suburban Area (Paisley)	864	182	1477	787	75	496	983	1123	783	3385
Totals	12060	2924	24886	13920	634	6605	16499	18442	12878	54424

GIRLS.

	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Anderston	681	172	1479	1005	43	470	979	1092	839	3380
Milton	1149	283	2168	1482	58	654	1633	1599	1254	5140
St Rollox	836	163	1601	1007	46	421	1103	1235	894	3653
Dennistoun	729	143	1422	834	43	384	924	1141	722	3171
Bridgeton Group	1242	289	2586	1643	50	630	1679	2117	1384	5810
Tradeston Group	1190	272	2807	1873	88	640	1865	2134	1591	6230
Partick	870	205	1721	1025	48	708	1159	1107	895	3869
Govan South	1051	249	2344	1321	51	545	1593	1640	1238	5016
South Suburban Area ...	1000	189	1821	1106	32	528	1309	1362	949	4148
East Suburban Area	1448	306	2294	1369	52	673	1577	1963	1256	5469
North Suburban Area ...	1080	220	1825	1095	29	532	1389	1364	964	4249
West Suburban Area (Paisley)	811	173	1389	857	76	497	949	1031	829	3306
Totals	12087	2664	23457	14617	616	6682	16159	17785	12815	53441

TABLE XLIX.

Relative Local Differences. Greater Glasgow and Environs.

BOYS.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Anderston	− 6·71	·25	3·80	2·65	−1·60	− 5·17	4·29	−3·35	3·44
Milton	− 4·93	2·01	3·69	·12	−1·86	− 5·75	1·14	·46	3·11
St Rollox	− ·36	− ·40	2·88	−1·78	−3·73	− 6·61	1·78	1·76	1·67
Dennistoun	− 1·68	·38	1·63	− ·01	−1·45	− 5·20	1·05	1·03	2·10
Bridgeton Group ...	− 2·66	−1·38	2·18	1·18	−1·14	− 8·41	−3·24	7·03	2·79
Tradeston Group ...	−11·99	−3·01	5·26	6·63	3·58	−13·46	− ·58	3·85	7·74
Partick	− 3·64	− ·22	4·94	−1·80	− ·39	5·16	− ·69	−3·44	·26
South Govan ...	− 7·13	− ·87	5·74	·91	·42	− 4·78	·26	·02	3·75
South Suburban Area	− 4·13	·52	1·55	2·80	−2·81	− ·21	−1·25	− ·02	1·58
East Suburban Area	− 3·07	−1·81	3·30	·43	− ·69	− 4·99	1·31	6·87	−2·06
North Suburban Area	− 4·84	1·36	4·22	− ·10	−2·32	− 6·52	1·48	3·11	·41
West Suburban Area	·78	− ·29	·42	−2·41	−5·09	− ·01	−1·62	·57	1·16

GIRLS.

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Anderston	− 9·55	− ·00	3·44	5·83	·33	− 1·59	−1·71	·31	2·88
Milton	− 8·24	1·37	1·93	5·72	− ·54	− 4·37	2·30	−1·48	2·83
St Rollox	− 6·20	−1·74	3·66	3·03	·27	− 5·73	− ·15	2·28	2·49
Dennistoun	− 5·64	−1·50	4·58	1·17	·76	− 4·40	−1·44	4·76	·01
Bridgeton Group ...	−10·47	− ·41	5·71	5·11	−2·47	− 8·73	−2·38	7·23	1·95
Tradeston Group ...	−14·93	−2·63	6·81	8·57	1·48	−10·33	− ·65	3·76	5·30
Partick	− 6·95	·60	4·61	1·57	·18	6·04	− ·48	−4·63	·56
South Govan ...	−10·39	− ·41	8·53	1·54	−1·26	− 8·05	2·26	·97	3·28
South Suburban Area	− 4·84	−1·58	4·01	1·89	−2·61	− 3·91	1·76	1·08	·18
East Suburban Area	− 1·60	1·72	1·64	− ·63	−1·77	− 5·39	−2·40	6·14	·37
North Suburban Area	− 2·97	·26	2·78	·56	−3·17	− 4·34	3·41	·06	− ·11
West Suburban Area	− 3·76	·38	1·35	·70	5·77	·27	−2·02	−1·08	3·20

TABLE L.

Divergency in Hair Colour and Eye Colour. Greater Glasgow and Environs.

	Hair				Eyes			
	Boys		Girls		Boys		Girls	
	Log *P*	*Q*	Log *P*	*Q*	Log *P*	*Q*	Log *P*	*Q*
Anderston ...	$\overline{10}\cdot7$	·0139	$\overline{20}\cdot6$	·0201	$\overline{11}\cdot5$	·0143	$\overline{2}\cdot2$	·0066
Milton	$\overline{6}\cdot2$	·0114	$\overline{15}\cdot0$	·0179	$\overline{8}\cdot9$	·0119	$\overline{6}\cdot8$	·0106
St Rollox	$\overline{4}\cdot5$	·0090	$\overline{9}\cdot6$	·0137	$\overline{9}\cdot3$	·0130	$\overline{8}\cdot9$	·0122
Dennistoun	$\overline{1}\cdot3$	·0150	$\overline{8}\cdot9$	·0127	$\overline{6}\cdot7$	·0104	$\overline{7}\cdot5$	·0117
Bridgeton	$\overline{2}\cdot3$	·0069	$\overline{25}\cdot4$	·0226	$\overline{22}\cdot2$	·0204	$\overline{22}\cdot2$	·0210
Tradeston	$\overline{36}\cdot3$	·0263	$\overline{52}\cdot6$	·0321	$\overline{44}\cdot2$	·0286	$\overline{25}\cdot0$	·0224
Partick	$\overline{5}\cdot5$	·0101	$\overline{10}\cdot8$	·0143	$\overline{6}\cdot0$	·0110	$\overline{10}\cdot9$	·0137
Govan	$\overline{11}\cdot0$	·0150	$\overline{25}\cdot2$	·0226	$\overline{6}\cdot2$	·0109	$\overline{14}\cdot4$	·0166
South Suburban Area ...	$\overline{5}\cdot2$	·0105	$\overline{7}\cdot1$	·0125	$\overline{1}\cdot6$	·0034	$\overline{3}\cdot1$	·0081
East Suburban Area ...	$\overline{3}\cdot4$	·0081	$\overline{2}\cdot7$	·0063	$\overline{12}\cdot6$	·0149	$\overline{11}\cdot2$	·0149
North Suburban Area ...	$\overline{7}\cdot8$	·0116	$\overline{4}\cdot5$	·0093	$\overline{9}\cdot2$	·0131	$\overline{5}\cdot5$	·0099
West Suburban Area ...	$\overline{6}\cdot7$	·0109	$\overline{9}\cdot8$	·0135	$\overline{1}\cdot6$	·0035	$\overline{4}\cdot0$	·0069

general population—there is no great excess or defect in any of the classes. Milton, the north suburbs and west suburbs are about equally divergent for boys, and show a fall as compared with those just mentioned. Then follow Partick, St Rollox and the south suburbs. These show a distinct approach to uniformity of distribution and resemble the general population. Finally the boy populations of the adjacent areas of Calton, Camlachie, Bridgeton, Dennistoun and the east suburbs are fair samples of the general population. Of all the pigmentation groups, only the population of the east suburbs among the girls show resemblance to the general population. As indicated by the boy results, the east end of Glasgow is thus the least divergent and the adjacent southern area—Tradeston, etc.—the most divergent.

(2) *Eye Colour.* On examining the results for eye colour, it is seen that Tradeston, Gorbals and Hutchesontown again come out most divergent. Clearly there are elements in this population of a different character from the population in general. Calton, Camlachie and Bridgeton are also very divergent. South Govan follows in the decreasing scale, then Anderston and the other groups. The south and west suburban areas are quite like the general population, but the east suburban group, partaking of the character of the east end of the city, is as divergent as Anderston, a populous centre.

Thus the special features of the divergency analysis of the component parts of Greater Glasgow are that (1) the eastern portion of the city is quite like the general population in hair colour but is most unlike in eye colour; (2) the suburban areas are much liker the general population than the purely city areas;

(3) in several cases the divergencies for the boy and girl populations are unequal. When this is the case, the girl population has the greater divergency.

(β) *Individual Classes.* (1) *Hair Colour.* The relative local differences have in all cases been calculated and show definitely the cause of the divergencies in each pigmentation group. It will be recalled that fair hair is in defect in the city generally. The difference between the city and the general population is very great, 12 and 24 times the standard deviation of sampling of the differences for boys and girls respectively. There is a distinct fall in the magnitude of the difference in taking Glasgow to pieces. Still in no case is fair hair in excess in the city. There is only a slight excess in the west suburban group. Tradeston is prominent in the magnitude of its negative difference, and resembles the figure for Glasgow generally. South Govan and Anderston, also in the heart of the city, follow with large differences. Milton and the three suburbs, north, south, and east, differ in a moderate degree, while St Rollox, Dennistoun and Bridgeton for boys are passable as samples of the general population, such negative differences as they show being quite possible in a draw from an evenly distributed population. In the girl population, however, only the four suburbs are passable as representative of the general population. All the city groups differ widely from the general average. In a word, one or two of the northern areas in Glasgow possess the average proportion of fair hair and are thus somewhat like the suburbs, but the densely populated areas in the city generally are awanting in the proper proportion of the fair-haired class.

There are slight excesses of red hair in Milton, Partick and the north, east, and south suburban groups, but in none of the cases are the excesses significant. Thus the uniformity of the distribution of this colour class is shown to exist practically all over the country, the north-east of Scotland being the exception. No grouping occurs to speak of in the densely populated city of Glasgow and no defect in the frequency of this class occurs to an extent in the least significant. Town and country are thus much alike with regard to this class.

Medium or brown hair however occurs in quite excessive frequencies in several of the city groups, but is less frequent in the suburbs generally. In the west suburban area, Paisley and Renfrew, the proportion is quite an average one. Tradeston, Gorbals and Hutchesontown (♂ and ♀); Calton, Camlachie and Bridgeton (♀); and South Govan (♂ and ♀) are the areas of greatest excess of the various shades of brown constituting the medium class. Dennistoun (♂) and Milton (♀) are fair samples of the general population in this class. In the dark-haired class, Tradeston, Gorbals and Hutchesontown again stand out. The greatest excess of this class is found over the area of these three divisions. Anderston and the south suburban group for boys show perhaps significant excess, but the differences in the other groups although positive are not significant. In the suburbs generally there are less dark-haired children proportionally than in the heart of the city, and the northern portion of the city itself has a less proportion than the southern and eastern portion. With regard to the small class of jet black haired persons,

Tradeston, Gorbals and Hutchesontown are the only divisions of the city which show significant excess. Excess occurs outside the city only in one suburban group, that of the west, Paisley and Renfrew.

(2) *Eye Colour.* The blue-eyed class, much below the average for Glasgow as a whole, shows significant negative differences in all the divisions and groups excepting the Partick and Kelvinside group, which shows a decided excess. Light eyes are in excess only in Anderston, the heart of the city, and in the north suburban area. There is a slight excess among girls in the South Govan group. Medium eyes are in excess in the east of Glasgow and in defect in the west. Starting in the north suburban area, the excess appears in St Rollox, Dennistoun and the Bridgeton group and finally in the Tradeston group. Govan, the south and west suburbs are like the general population. The defect is greater in Partick. The distribution of dark eyes is interesting on account of the fact that excess in Scotland generally is limited, when a large number of cases is considered, to one region of Scotland, that of Perthshire and Forfarshire. The only suburban area showing excess of this class is the west (Paisley and Renfrew) for girls. There is a slight excess in the boy population of the south suburban area. In the city, Partick is different from the rest of the population in that it possesses the average number—it is quite like the general population for this class. All the other divisions and groups show excess of dark eyes. It is most marked in the Tradeston group, the excess there being highly significant. South Govan follows and then Anderston and Milton. The excess is significant for boys in the Bridgeton group but not quite significant among the girls of that group.

(γ) *General view.* The predominant colours of each of the divisions of Glasgow can now be stated. They are given in the following two tables. Table LI. shows significant positive differences only and these are classed so as to show the intensity of the excesses. Table LII. is a condensation of Table LI. and gives a brief specification of each division.

Taking a general survey of the pigmentation distribution of Greater Glasgow as shown by an analysis of its divisions and the environs, one sees that the excesses of medium and dark hair and medium and dark eyes (found in considering Glasgow as a unit) are not evenly distributed over the city and suburbs. *It is however the predominant feature of the more densely populated and larger portion of the city to be brown or dark in hair colour and medium or dark in eye colour. This of course but confirms the general result in comparing density with pigmentation.* There are some interesting features in the colour distribution which deserve special mention. The occurrence in certain parts of Glasgow of excesses of classes generally deficient in the city (either with or without the prevailing colours) is striking. Why, for instance, should Anderston have an excess of light eyes in the boy population? Why should Milton be the only district having even a slight excess of red hair? Why should the Tradeston group be the only one in the city having an excess of the jet black class, and be otherwise so very divergent as it has proved to be? Why should Partick be the only division in Glasgow having blue eyes in excess,

TABLE LI.

Specification of the Greater Glasgow Population.

(Only significant positive relative local differences shown.)

BOYS.

	Anderston	Milton	St Rollox	Dennistoun	Bridgeton Group	Tradeston Group	Partick	South Govan	S. S.	E. S.	N. S.	W.S.
Fair ...	—	—	—	—	—	—	—	—	—	—	—	—
Red ...	—	2	—	—	—	—	—	—	—	—	—	—
Medium ...	4	4	3	—	—	5	5	6	—	—	4	—
Dark ...	3	—	—	—	—	6	—	—	3	—	—	—
Jet Black ...	—	—	—	—	—	4	—	—	—	—	—	5
General Divergency for hair colour	3	1	1	0	0	7	1	3	1	0	2	1
Blue ...	—	—	—	—	—	—	5	—	—	—	—	—
Light ...	4	—	—	—	—	—	—	—	—	—	—	—
Medium ...	—	—	—	—	7	4	—	—	—	7	3	—
Dark ...	3	3	—	—	3	7	—	4	—	—	—	—
General Divergency for eye colour	3	2	2	1	7	7	1	1	0	3	2	0

GIRLS.

	Anderston	Milton	St Rollox	Dennistoun	Bridgeton Group	Tradeston Group	Partick	South Govan	S. S.	E. S.	N. S.	W.S.
Fair ...	—	—	—	—	—	—	—	—	—	—	—	—
Red ...	—	—	—	—	—	—	—	—	—	2	—	—
Medium ...	3	—	4	4	6	7	5	9	4	—	3	—
Dark ...	6	6	3	—	5	9	—	—	—	—	—	—
Jet Black ...	—	—	—	—	—	—	—	—	—	—	—	6
General Divergency for hair colour	6	4	2	2	7	7	3	7	2	0	1	2
Blue ...	—	—	—	—	—	—	6	—	—	—	—	—
Light ...	—	—	—	—	—	—	—	—	—	—	3	—
Medium ...	—	—	—	5	7	4	—	—	—	6	—	—
Dark ...	3	3	—	—	—	5	—	3	—	—	—	—
General Divergency for eye colour	0	1	2	2	7	7	3	4	0	3	1	1

Differences between 2·5 and 3·5 are here class 3; between 3·5 and 4·5 class 4; between 4·5 and 5·5 class 5 and so on. The object is to show the degrees of difference even in significant cases. In the general analysis of the whole country, all differences above 3·5 are shown as one class. In the maps however all differences above 3·5 are included in class 4, to be in conformity with the general scheme.

TABLE LII.

	Boys		Girls	
	Hair	Eyes	Hair	Eyes
Anderston ...	Medium, Dark	Light, Dark	Medium, Dark	Dark
Milton ...	Slightly red, Medium	Dark	Medium	Dark
St Rollox ...	Medium	—	Medium, Dark	—
Dennistoun ...	—	—	Medium	Medium
Bridgeton Group	—	Medium	Medium, Dark	Medium
Tradeston Group	Medium, Dark, Black	Medium, Dark	Medium, Dark	Medium, Dark
Partick ...	Medium	Blue	Medium	Blue
South Govan ...	Medium	Dark	Medium	Dark
South Area ...	Dark	—	Dark	—
East Area ...	—	Medium	Red	Medium
North Area ...	Medium	Medium	Medium	Light
West Area ...	Jet Black	—	Jet Black	—

the only excess in hair colour (scarcely significant) being that of the dark class? Finally there is the general problem of the colour characters of Glasgow. Why should this population differ so markedly in pigmentation from the general population of Scotland? This problem will now be solved as far as it can be solved from the data of the survey and other available information.

III. *Specific Elements in the Glasgow Population, causing Divergency.* (*a*) *Introductory.* In one of the previous sections (Section 9) it was proved (1) that excess of blue eyes, dark hair, and jet black hair, are associated with regions of excess of the Gaelic speaking population; and (2) that excess of medium or brown hair, medium eyes and dark eyes are associated with more densely populated regions, which in turn are also regions of excess of foreigners. This means, briefly, that blue eyes, dark, and jet black hair are probably typical of Gaelic speaking people* although of course all the other classes are represented in this population, and that brown hair is typical of densely populated areas which in turn have a proportion above the average of foreign immigrants.

(*β*) *The Gaelic Speaking Population.* Taking the Gaelic speaking population first, there is undoubtedly a large Scoto-Keltic or Highland element in Glasgow. At the last Census, no fewer than 18,279 persons could speak Gaelic and English in the city proper. This is equal to 9 per cent. of the total Gaelic speaking population. Taking Glasgow, Govan, Kinning Park and Partick, that is Greater Glasgow (without the environs), the Census shows that nearly 24,000 or 11·7 per cent., or more than one-ninth of the whole Gaelic population, is concentrated in the great western city. An analysis of the Census returns further shows Kelvinside, with 6·4 per cent.; Tradeston (Kingston Ward), with 5 per cent.; Milton (Park Ward),

* Gaelic speaking people are not associated with dense areas as a whole. The correlation is negative, $r = -\cdot39 \pm \cdot2$. The association with sparsely populated parts is therefore not very high.

with 4·9 per cent.; Anderston, partieularly Sandyford Ward, with 4·8 per cent., to be quite in exeess of the general average for Greater Glasgow, whieh is 2·6 per cent. of the whole population of the eity. Govan is also in excess, having 4·4 per cent. of Gaelie speaking people in its population. One seems justified in inferring that sueh a population distributed over Glasgow would have a marked effeet on the nature of the distribution of colour. Sinee Glasgow is signifieantly darker than the general population, sinee dark hair is signifieantly associated with the Gaelic speaking population, and sinee at least one-ninth of the whole Gaelie speaking population resides in Greater Glasgow, the conclusion is inevitable that the Gaelie speaking portion eontributes largely to the significance of the exeess of dark hair. It is not eontended that this is the whole eause of the signifieant exeess, but it is a prominent faetor. But it may be argued that blue eyes are in defeet in Glasgow generally and sinee blue eyes are also associated with Gaelie speaking people, their presenee does not seem, on this hypothesis, to affeet the eharaeter of the distribution. The answer is: it must be borne in mind that the combination of blue eyes and fair hair in one person, that is the blonde type, is in great defeet in Glasgow, thus diminishing the proportion of blue eyes to a great degree. There are also large excesses of dark eyes to whieh it will presently be seen the foreign element contributes. These and other faetors prevail over the Gaelie faetor and the theoretieal exeess of blue eyes is eonverted into an aetual defieiency in this elass, with one exeeption only. This exeeption is the Kelvinside and Partick group. Here a highly signifieant excess of blue eyes appears with an exeess of dark hair, thus revealing the presenee of the Gaelie speaking portion as one of the predominant eauses of the divergeney in these distriets, for it has already been observed that in Kelvinside alone 6·4 per eent. (the highest pereentage in any distriet in Glasgow) of the population speak Gaelie. Presenee of exeess of light eyes among boys in Anderston deserves notiee. While it has been observed that exeess of blue eyes is assoeiated with the Gaelie speaking portion generally, it must be noted that Argyll has in its rural population 62 per eent. of Gaelic speaking people and has a large exeess of light eyes. Exeess of this elass is therefore a eharaeteristie of a section of the Highlands as it has been shown also to be of Ayr and Galloway whieh are elosely allied in blood to the Highlands as it formerly was in language. It is highly probable that eounty immigrants and their deseendants from Argyll, Ayr and Galloway, are at the present time in excess of the general proportion in Anderston generally, thus disturbing the balanee in favour of an exeess of light eyes in the boy population. In addition to this, there is the Irish element. Beddoe's results, already quoted, show an exeess of light eyes in the Irish compared with the Seottish figures of the present data. The Gaelie element does not however aeeount for exeesses of medium hair and dark eyes in Anderston, although it would aeeount for the exeess of dark hair and light eyes. The general analysis shows Perthshire and Forfarshire to have signifieant exeess of dark eyes, which has been suggested to aceount for the similar exeess in Dundee and perhaps to some extent to explain the excess of the same elass in Edinburgh. Are eounty immigrants and their deseendants from these regions in exeess also in Anderston

and in Glasgow generally, for the excess of dark eyes is common practically over the whole of Glasgow although it is more highly significant in Tradeston, Govan, Anderston, Milton, and Bridgeton? I think this is unlikely. There must be some other factor or factors besides mere immigration from the Scottish Midlands. What are they?

(γ) *The Foreign Population of Glasgow.* It was shown in the last section that the correlation between foreigners and density of population was very high. It was so high that on comparing foreigners and density of population separately with pigmentation, the same conclusion was reached for each. It could not however be said whether foreign immigrants were causing the excesses in the three classes named by their great numbers or whether the excesses were there independently of them, for, since foreigners came mainly to towns, it might be only through density as the common link that the correlation existed at all. The association between foreigners and density is however real. Foreign immigrants are likely to be found to reside in greater numbers in the most densely populated areas and in the smallest houses. Now it is very suggestive that, at the last Census, 9644 foreigners or 42·6 per cent. of the total number of foreigners in Scotland (22,627 in 1901) resided in Glasgow alone. It is also suggestive that of the great cities Glasgow is by far the most densely populated. The following table gives the relative densities of the chief towns in Scotland:

TABLE LIII.

Number of Persons per Square Mile in the Chief Towns of Scotland.

Town	Persons per Square Mile	Town	Persons per Square Mile
Pollockshaws ...	43,177	Coatbridge ...	12,830
Greater Glasgow ...	39,331	Musselburgh ...	12,826
Leith ...	33,787	Alloa ...	12,661
Rutherglen ...	30,537	Kirkcaldy ...	12,515
Dundee ...	28,069	Barrhead ...	11,916
Johnstone ...	27,859	Dumbarton ...	11,387
Port Glasgow ...	24,289	Falkirk ...	11,223
Motherwell ...	21,978	Perth ...	11,031
Edinburgh ...	20,089	Peterhead ...	10,991
Greenock ...	18,598	Inverness ...	10,514
Fraserburgh ...	17,510	Galashiels ...	10,085
Kilmarnock ...	17,125	Ayr ...	9,177
Hamilton ...	15,750	Brechin ...	9,086
Aberdeen ...	15,716	Stirling ...	8,552
Clydebank ...	14,959	Dunfermline ...	8,016
Dumfries ...	14,726	Kirkintilloch ...	7,992
Wishaw ...	14,535	Forfar ...	7,444
Bo'ness ...	13,889	Montrose ...	5,422
Airdrie ...	13,598	Renfrew ...	3,742
Hawick ...	13,434	Irvine ...	3,429
Arbroath ...	13,075	Rothesay ...	2,461

TABLE LIV.

Population in 1901 *of the Chief Towns in Scotland arranged in the order of their magnitude.*

Town	Population	Town	Population
Greater Glasgow ...	906,391	Stirling ...	18,403
Edinburgh ...	316,837	Hawick ...	17,303
Dundee ...	161,173	Port Glasgow ...	16,857
Aberdeen ...	144,117	Rutherglen ...	16,185
Leith ...	77,439	Galashiels ...	13,615
Greenock ...	68,142	Dumfries ...	13,092
Coatbridge ...	36,991	Montrose ...	12,427
Kilmarnock ...	34,165	Peterhead ...	11,794
Kirkcaldy ...	34,079	Musselburgh ...	11,711
Perth ...	32,873	Alloa ...	11,421
Hamilton ...	32,775	Forfar ...	11,397
Motherwell ...	30,418	Pollockshaws ...	11,183
Falkirk ...	29,280	Johnstone ...	10,503
Ayr ...	28,697	Kirkintilloch ...	10,502
Dunfermline ...	25,250	Barrhead ...	9,855
Arbroath ...	22,398	Irvine ...	9,618
Airdrie ...	22,288	Rothesay ...	9,378
Inverness ...	21,238	Bo'ness ...	9,306
Wishaw ...	20,873	Renfrew ...	9,296
Dumbarton ...	19,985	Fraserburgh ...	9,105
Clydebank ...	18,670	Brechin ...	8,941

From the results found in ascertaining the degree of association between density and pigmentation, excesses of medium hair, medium eyes and dark eyes would be expected in Glasgow. But the most densely populated parts of the city have been proved to be likely to contain more foreigners than the less densely populated parts. Thus the greater the number of persons per square mile a population has, the greater will be the expected excess of the three classes associated with excess of foreign immigrants. Now the only large group which has the complete density-colour specification (and in the greatest excess) and which has the highest general divergency, is the group of divisions Tradeston, Gorbals and Hutchesontown. It is highly probable that the foreign element may be one of the factors in the divergency of this group—foreign immigrants may contribute to the excesses in one or more of the classes there. In order that an estimate of the probable number of school children of foreign parentage attending Glasgow schools might be formed, an enumeration of those possessing foreign surnames was made. At the same time the colour characters were noted and classified. Only those surnames which were unmistakably foreign were taken, so that the estimate is most probably below instead of above the actual figures. The following is the result of the enumeration for the various pigmentation groups of Greater Glasgow. The environs were not included.

TABLE LV.

Division or Group	Children in each division having foreign surnames, per cent. of the total number of children in Greater Glasgow having foreign surnames
Anderston	12·51
Milton	7·78
St Rollox	1·28
Dennistoun	7·98
Calton, Camlachie and Bridgeton	3·85
Tradeston, Gorbals and Hutchesontown ...	59·21
South Govan	6·50
Partick and Kelvinside	·89
Totals	100·00

This result is striking and confirms what has been said as to the Tradeston group. In two schools alone, Gorbals and Adelphi Terrace, about 500 children had distinctly foreign, mostly Jewish, surnames. The colour characters of these children were tabulated with the following result (Table LVI.):

TABLE LVI.

Children with Foreign Surnames

Colour	Gorbals per cent.	Adelphi Terrace per cent.
Hair:		
Fair ...	3·14	8·00
Red ...	1·04	2·29
Medium ...	37·98	26·29
Dark ...	53·31	56·57
Jet Black ...	4·53	6·86
Eyes:		
Blue ...	3·14	1·71
Light ...	17·42	17·71
Medium ...	21·25	18·86
Dark ...	58·19	61·71

In Gorbals Public School 41 per cent. and in Adelphi Terrace Public School 44 per cent. of the children of foreign parents had dark hair associated with dark eyes in the same individual. Thus the Jewish element alone in the Tradeston group is sufficient to account for the excesses in dark hair, jet black hair, and dark eyes, found in this populous district.

It has been directly ascertained that the foreign element in the Tradeston group is largely made up of Jews of Russian and Polish origin. From the Census Report it is seen that of the whole number of foreigners in Glasgow, 60 per cent.

are Russians and Poles; 15 per cent. are Italians; 10 per cent. belong to other races whose predominant hair colour is known to be brown or dark. Only 15 per cent. belong to Northern races or peoples likely to have a moderate or large proportion of the blonde type, namely, Germans, Swedes, Norwegians, Dutch and Belgians. Thus wherever foreigners congregate together in the city anywhere they are likely to increase the darkness of the population rather than otherwise. The general effect outside the Tradeston group may be small, since the foreign population is more scattered, and is in much smaller proportion consequently in every division but Tradeston and Gorbals. Any effect Italians have would be in the direction of excess of medium hair and dark eyes since Livi* has shown these are the typical classes among Italians, but there is no evidence of the concentration of members of this race as a group in the city†.

(δ) *The Irish Population of Glasgow.* The Gaelic speaking population has been shown to be likely to influence the colour distribution of Glasgow in the direction of excess in the dark and jet black haired classes and also probably in the blue-eyed and light-eyed classes. The divisions likely to be influenced have also been pointed out. But there is another very important element in the Glasgow population still to be considered. It is estimated by reliable authorities that there are about 100,000 Irishmen in Glasgow. Over 40,000 as a minimum are Protestants‡. The proportion of persons of Irish origin in other parts of Scotland is very small. The effect of this large population, if its colour characters differed from those of the Scottish population, would be very great. In one of the previous sections (Section 9, Table XXXVIII.) it was pointed out from Beddoe's figures that compared with Scotland, Ireland was likely to have much higher proportions of light eyes (light and blue, however; Beddoe grouped both together as one class), dark hair and jet black hair. Beddoe's figures of course refer to the adult Irish population. It therefore seemed desirable to get an estimate of the distribution of colour among Irish children. The colour characters of school children, stated by the teachers to be of Irish origin, in certain Glasgow schools were tabulated, when the figures given in the accompanying table (Table LVII.) were obtained.

These figures confirm the conclusion from Beddoe's results. Dark and jet black hair are both in excess compared with the Scottish population. The distribution therefore differs markedly from the general Scottish distribution. If children of Irish origin were present in a moderately large proportion in any of the districts, they would sensibly affect the colour distributions in the schools of Glasgow. In order to gain some information as to the number of children of Irish origin in each of the pigmentation districts of Glasgow, the author recently communicated with the headmasters who very kindly sent in a return showing the numbers approximately of children of non-Scottish origin, in three classes: (α) foreign, (β) Irish,

* R. Livi, *Antropometria Militare*, Roma, 1898.

† Canon Ritchie has very kindly supplied me with figures from the Roman Catholic Clergymen of Glasgow which show that Italians are nearly in even proportions in the various divisions.

‡ This estimate is based on figures supplied by Orangemen, through the kindness of Mr Hugh Berrie, Glasgow.

TABLE LVII.

Colour Distribution of Children of Irish origin.

	Per Cent.		Irish Adults
	Boys	Girls	Beddoe
Hair:			
Fair ...	24·31	22·11	10·4
Red ...	4·53	5·09	4·6
Medium ...	40·32	35·13	33·4
Dark ...	27·26	33·07	40·5
Jet Black ...	3·58	4·60	11·0
Eyes:			
Blue ...	22·53	21·23	66·5
Light ...	26·52	26·03	
Medium ...	28·84	28·38	14·7
Dark ...	22·11	24·36	18·6

(γ) English and Welsh. The following table (Table LVIII.) shows the percentages of each of the three classes based on the returns received. The author desires cordially to thank the teachers of Glasgow for supplying the additional information asked for—information which assists in the verification of some of the conclusions as to the cause of the great divergency of the population of Glasgow from the general population.

TABLE LVIII.

Percentages of Children of Non-Scottish Origin. Glasgow Proper.

Division	Number of Children of Origin as noted below in Public Schools sending returns		
	Per Cent. Foreign	Per Cent. Irish	Per Cent. English
Anderston	·68	6·61	3·39
Milton	1·16	4·29	4·90
St Rollox	·67	7·99	6·42
Dennistoun	·15	9·35	5·80
Calton, Camlachie and Bridgeton	·24	5·15	4·36
Tradeston, Gorbals and Hutchesontown ...	8·18	3·72	3·08

This table does not of course represent the absolute percentages of non-Scottish children in the above named divisions. Practically the whole of the children attending Catholic schools are excluded. The percentage of Irish school children in each division is really much higher. The above table merely shows the proportion in the public schools sending returns. The table serves its purpose as

showing the large Irish element in the public schools of Glasgow—an element which, from the results of the analysis of the colour characters of Irish school children in Glasgow, tends to make the hair colour distribution of the western city darker than the remaining Scottish population. The school children of Irish origin have on an average 2 per cent. more of the dark-haired class (boys) and about 8 per cent. more in the girl population. A distinctly greater proportion belong to the jet black class among the Irish population, about 4 per cent., compared with $1\frac{1}{4}$ per cent. in the Scottish population. Although a greater proportion of the Irish population observed, compared with the general Scottish population, has blue eyes, this class does not appear in excess in any of the populous centres except Partick. Partick was not included nor was Govan in the investigation as to the number of school children of non-Scottish origin—an omission which the author regrets he made when the Glasgow teachers were invited to send the additional returns. Further work is contemplated on the Glasgow returns and an additional return is expected from many of the large Catholic schools. These schools have an attendance of about 20,000 children whose colour characters have not yet been observed. A very large number of these children are of Irish origin and a knowledge of their colour distribution will be useful. Of course since these children were not included in the present survey, they do not contribute to the divergency found for Glasgow.

The results of this subsection show that children of Irish origin clearly affect the nature of the distribution of colour in Glasgow. They tend, as the Scoto-Keltic and the foreign populations do, to create an excess of dark hair and jet black hair. The Irish population does not appear to affect the eye colour distribution of Glasgow sensibly. It may however do so. Other factors which have not yet been discovered may be operating to obscure the effect of the Irish element on the distribution of eye colour in the western city.

The association of excess of dark hair, jet black hair, blue eyes and light eyes with the Scoto-Keltic and Irish populations is a striking feature in these results. The results but confirm the common origin of the two peoples—their association as determined by language, by history and by tradition.

IV. *Summary of this Section.* (1) The general analysis reveals Glasgow to diverge largely from the general population both in hair colour and eye colour.

(2) Further analysis shows the divergency to be due to excesses of the medium and dark haired classes and the medium and dark eyed classes, and to defects of the fair-haired and blue-eyed classes.

(3) Analysis of the divisions into which Glasgow is divided brings out the fact that the excesses are not uniformly distributed over the city. No excess of the fair-haired class appears in any quarter of the city, but certain districts, St Rollox (♂), Dennistoun (♂), and the western suburban area (Paisley) have about the average proportion of this class. Milton, the Cowcaddens district, is the only one showing excess—a slight one—of the red-haired class. Excess of medium hair in varying

proportions occurs in every district of the city. In St Rollox, Dennistoun, Calton and Bridgeton, the excesses are not so marked in the boy population. Excess of dark hair is characteristic in a marked degree of Anderston and Tradeston, Gorbals and Hutchesontown. In other densely populated centres the girl population also shows excesses of this class. Jet black hair is in excess in the Tradeston group. Blue eyes is in excess only in the Partick group; light eyes in Anderston; medium eyes in Dennistoun and the Bridgeton and Tradeston groups; dark eyes in Anderston, Milton, Govan and the Tradeston group.

(4) The environs of Glasgow diverge in a much less degree from the general population. The population is not so dark as in the city.

(5) The deficiencies in the blue-eyed and fair-haired classes are due to the presence of a complex group which, with a darker colour specification, creates deficiencies in these classes. This complex group includes Highland, Irish, and foreign populations.

(6) It cannot be said from the data whether these classes (fair hair; blue eyes) are less fitted for town life or whether this theory would account for any of the low percentages of these classes. The low percentages are on the other hand explained by the presence of the darker Scoto-Keltic and non-Scottish elements.

(7) The Scoto-Keltic, Highland or Gaelic speaking population appreciably affects the distribution of colour and helps to explain excesses in dark hair and light and blue eyes.

(8) The Irish population, a very large one, also helps to explain the large excesses in dark and jet black hair and probably light eyes where they occur.

(9) The foreign element helps largely to explain why Tradeston and Gorbals diverge so widely from the rest of the population. The presence of other non-Scottish groups in this part of the city is probable.

(10) The country north-east and almost contiguous to Glasgow might contribute in some degree to excess of dark eyes, since these parts (Stirling, Perth, etc.) have an excess of this class in their own populations. The greater fertility of the lower classes, and of the dark-eyed portion particularly, might contribute to explain the excess of this class.

(11) Excess of medium hair and medium eyes cannot be accounted for by the presence of a Scoto-Keltic element or of a non-Scottish element or by the migration of excesses of Scottish members of these classes from rural districts to the city. Excesses of these classes are not found to any extent outwith densely populated centres.

(12) The excesses may be due to blending of fair and dark populations or to greater fertility of the medium classes, or to both these causes.

(12) *Comparison with other Data.*

I. *Scottish Data.* (α) *East Aberdeenshire Children in* 1896. The only data of a similar character with which any of the results of the present survey can be at all compared are the East Aberdeenshire results of 1896 published in a preliminary paper by the author in 1897*. Owing to slightly different ranges in some of the classes however the results are not directly comparable, as printed, with the results for East Aberdeenshire in 1903, when the general pigmentation survey was carried out. Fortunately in 1896, the teachers were asked not only to record the colour with reference to the classes then adopted but also to note where possible, and always if in doubt, the probable sub-class from a series of stated sub-classes, similar to Broca's scale. Thus the author has been able to retabulate where necessary the results of 1896 and, as far as possible, place the children in the classes as specified in the analytical tables of the present survey. The first survey, it has been found, had a wider range of medium and a slightly wider range of red. With respect to the eye classes, the blue and light-eyed class of 1903 corresponds pretty closely to the light-eyed class of 1896. The following table (Table LIX.) shows the relative differences in the classes between the two sets of observations. To be more specific, the table shows the difference per cent. (or d) in each class compared with the probable error of the percentage difference, that is, compared with

$$E_d = 67{\cdot}449\sqrt{\frac{pq}{m}+\frac{p'q'}{n}},$$

where in this formula, $p = \frac{y}{N}$; $q = (1-p)$; $y =$ observed frequency of the class in

TABLE LIX.

Relative Difference between East Aberdeenshire in 1896 *and* 1903. (*Boys and Girls.*)

Colour		$\frac{d}{E_d}$
Hair:		
Fair	...	1·77
Red	...	−2·05
Medium	...	−6·79
Dark	...	6·28
Eyes:		
Light	...	6·29
Medium	...	−1·74
Dark	...	−3·78

* Tocher: *Trans. Buchan Field Club*, Vol. iv. pp. 137—152.

the first sample; m = number in first sample, $p' = \frac{y'}{N'}$; $(1-p') = q'$; y' = observed frequency of the class in the second sample; n = number in second sample; N = total children in first sample; and N' = total children in sceond sample.

The negative sign indieates that the proportion of the elass considered was less in 1903 than in 1896 and the positive sign that it was greater. The above results seem to indicate that the school population of East Aberdeenshire became darker haired to an extent whieh must be reckoned significant, and lighter eyed to an extent also significant in the eight years' interval. Making allowanee for any difference in method of observation, and comparing parish with parish, the results are however very similar. The differenee lies chiefly in the results from the two towns in the division, Peterhead and Fraserburgh.

(β) *Scottish Adults—The Insane.* The colour results of the survey of asylums in Scotland are not directly comparable, since the observations were made on adults and since the group is a selected one and is not truly representative of the general population. All one can do is to note in a general way the agreement or otherwise of the two sets of data. The author has not found it possible to spare the time to estimate from the juvenile data the probable distribution of the ordinary adult population in each division or to deal in further detail with the colour characters of the insane. Moreover it seems more desirable—more satisfactory—to wait until the adults of the normal population are directly surveyed. Instead of the promised detailed comparison between the two sets of data, it seems suffieient to point to the leading features. Both sets of data agree in showing less divergency in densely populated parts. The excess of dark hair in the west found for the asylum population has been amply confirmed by the results of this survey. The region of excess of dark eyes in the asylum population has proved to be the same region for the general school survey. Perthshire, Stirling and Forfar are the counties constituting this region. The excess of medium hair is in both associated with density. The proportions of fair hair and red hair are small compared with the juvenile population. Excess of light eyes is somewhat similarly distributed, but is not so much south-west as the juvenile distribution. The region of excess of red hair is quite the same. Briefly, while it would be useless to compare the relative frequencies of the two sets of data for the reasons already stated, still when the local class frequencies of each set are compared with each set's own general population, they show on the whole the same significance. It has been shown that the colour distribution of the insane population as a whole cannot represent the general distribution of the sane in one important particular, namely, in the frequency of the light-eyed class. Regions of excess of insanity from the general average are associated with regions of excess of light eyes, thereby increasing the proportion of light eyes in the general insane population beyond the expected amount for the general adult sane population*.

* *Biometrika*, Vol. v. pp. 298—350.

(γ) *Scottish Adults—Beddoe's Observations.* The figures of the pioneer observer Dr Beddoe are useful, indicating as they do the predominant classes in various localities in Scotland. The samples of the population observed by Beddoe are usually small and in many cases they are too local to give an idea of the distribution of the surrounding area. His classes do not all correspond to those of the present data, and since adults and not children were observed by him one is farther debarred from attempting to compare directly the relative frequencies of his classes in various localities with those from this survey. The proportion of red hair generally found by him appears to be slightly higher than that found by the teachers of Scotland among the children. The excesses however appear in the same districts. He shows excess of dark hair in the same western regions of the country. The proper time to enter into a discussion of Dr Beddoe's results is when a survey of the colour characters of the adult population has been completed and the results tabulated and analysed.

II. *Foreign Data.* (α) *The Actual Data.* The results of this survey will now be compared with the results of the surveys of the colour characters of children which have been carried out in Germany, Switzerland and (partially) in England, and with the results of the surveys of the colour characters of the adult populations of Sweden and Italy (military data). The following table (Table LX.) gives the percentages of the classes in each of the countries named, the school figures for Scotland being given alongside for comparison.

TABLE LX.

Authority	Country	Nature of Population	Hair				Eyes		
			Fair	Red	Medium	Dark	Light	Medium	Dark
Virchow...	Prussia	Children	72·4	·3	26·0	1·3	42·9	32·6	24·5
Beddoe ...	Switzerland		52·9	2·9	38·9	5·3			
Retzius ...	Sweden	Adults	75·3	2·3	21·6	·8	66·7	28·8	4·5
Livi ...	Italy	Military	8·2	·6	60·1	31·1	10·3	20·6	69·1
Ammon ...	Baden	Adults	41·6	1·7	38·6	18·1	64·4	22·9	12·7
Tocher ...	Russian Jews in Glasgow	Children	5·1	1·2	33·4	59·7	19·8	21·1	59·1
Pearson ...	England	Boys	33·5	4·1	34·0	28·4	41·5	37·0	21·6
Tocher ...	Scotland	Boys	24·95	5·49	43·28	26·28	44·97	32·72	22·31
„ ...	„	Girls	27·43	5·09	40·87	26·62	45·18	32·06	22·76

(β) *Comments.* The first fact worthy of notice is that Scotland occupies an intermediate position between the extreme northern race (Germany) and the extreme southern one (Italy) in the matter of pigmentation. The northern German race has about 72 per cent. of the fair-haired class; the Italian race about 60 per cent. of the brown-haired class and 31 per cent. of the dark-haired class. Scotland has about equal proportions of fair and dark; about one-fourth of the school population is either fair-haired or dark-haired; the remaining belong to intermediate classes which include the shades of brown and red. Now if a pure race of the blonde

type is defined as meaning a population which has been isolated and has bred within itself in an environment unsuitable for the production of hair pigment for a sufficient length of time to ensure that every individual will be fair-haired, it is obvious none of the northern races are pure races of the blonde type. They have relatively large sections in their respective populations which are pigmented. Similarly if by a pure race of the dark-haired type is meant a population which has bred within itself in an environment suitable for the production of hair pigment for a sufficient length of time to ensure that every individual was uniformly pigmented dark, it is clear the southern Italian race is not a pure race of the dark-haired type. The Italian people are largely of the brown or intermediate type (about 60 per cent.); 31 per cent. or nearly one-third are dark; about 8 per cent. are fair. If all the races of mankind were uniformly pigmented or non-pigmented, hair colour would cease to be one of the tests of race. But this is not the case and the problem is: how far can one use colour as a test of race or of racial purity? One must in the first place consider whether in conjugal unions between the fair and dark types blended or exclusive inheritance holds, or whether both exist. It is clear from observation that blended inheritance does exist for fair and dark hair colours, the shades of brown being the blend. What is wanted is a measure of the blended inheritance in this case. From observation it is possible that exclusive inheritance exists in the case of red hair. But the main point here is that, in hair colour, one has a problem in blended inheritance. Now granting equipotency of the two types, fair and dark, and random mating with respect to hair colour as well as other forms of mating as probable, and it is obvious that varying proportions of fair, dark and the shades of brown hair will occur in the population of a country according to the proportions of the fair and dark types originally settling in that country. Is anything known of an exact nature as to the distribution of colour in the offspring of fair and dark parents, i.e. of parents one dark and one fair? Insufficient data exist to show the exact nature of the distribution. A large number of carefully made observations are required. Individual cases can be cited. (A) Dark-haired, and (B) fair-haired, have a family of five. One is fair, one is dark, three are medium. All are children, but the oldest, classed medium, is getting darker and will probably be dark. To be accurate one must compare the colour of the parents *when they were children* with the colour of the offspring *as children*; or the colour of the parents with the colour of the offspring *as adults*. Can it be said that the most probable distribution of colour in the offspring of such parents, granting blended inheritance and equipotency in determining pigment, is, in say a family of four, 1, 2, 1; one fair-haired, two medium and one dark-haired? The object of science is to give a shorthand description of the facts. In this case the expanded binomial $(\frac{1}{2} + \frac{1}{2})^2$ is put forward tentatively as the shorthand description. If true it is a problem like determining the number of times two heads, one head and no heads, will turn up in spinning two coins together. The most probable distribution in this case is, 1, 2, 1. Can hair colour in Scotland be cited as an example of this simple binomial distribution, similar to the Mendelian example in the crossing of peas? This has to

be determined. What the writer wishes to lead up to is this. In Scotland the distribution of colour is roughly, 1 fair, 2 mixed, and 1 dark. Is it fair to infer that the original elements of the Scottish population were fair-haired and dark-haired races in approximately equal proportions? Proof is wanting but the distribution is suggestive. From our knowledge of the distribution of eye colour in Scotland, it is unlikely that although there were fair-haired and dark-haired races, the two elements were entirely blonde and brunette—the blue-eyed fair-haired type, and the dark-eyed dark-haired type. It cannot be shown from the data what proportion of the *dark-haired* element was of the brunette type or what proportion was of the type found in the Gaelic speaking population, the *blue or light-eyed dark-haired* Keltic type. Who were our ancestors of the brunette type? Were they of the Mediterraneau or Danish type or both? The fair-haired element probably was made up of the blonde type, Scandinavians and others of Germanic stock who, history tells us, came to our shores in bygone centuries and who fought, struggled, settled and made Scotland—the Scotland of the dark-haired Kelt—their home. Together with the darker elements they may have united and appear to be now uniting to form a blend—the Scottish type—one which in physical characters has proved itself vigorous and which, considering mental characters, has been at least relatively as productive of men of ability as any in the British Isles.

III. *The Data bearing on correlation, and comparison with similar data.* (*a*) *General.* Hitherto, throughout the entire course of this investigation, the author has been considering hair colour and eye colour separately—taken one at a time. It is obvious however that an account of the colour characters of the Scottish children would be incomplete which did not include an investigation on the two taken together as found occurring in each individual.

It is one of the disadvantages of a private investigation as compared with an official one carried out by a Department of the State, that an adequately paid staff is not available to tabulate the enormous mass of data, the complete analysis of which is necessary before a full account can be given of all the facts which flow from the results and which lie hidden until the tabulation has been made. Although the author has been continuously engaged in the tabulation and numerical treatment of the returns so kindly made by the teachers voluntarily more than four years ago, he has been able only to complete the investigation in so far as it refers to the separate colour characters. The large mass of data bearing on fraternal and other relationships lie practically untouched. The tabulation of the combinations of the two characters has still to be made, except for one or two districts. The author has complete confidence that not only will he be able to get the funds necessary for clerical assistance to tabulate these important data, but that he will be personally given sufficient time to do the work. The correlations between hair and eye colour when such data are tabulated and the values of the correlations evaluated for each locality will be of great value. Not only will the predominant types in each district be determined but the relative homogeneity

of each group will be accurately ascertained. Again, there are the colour characters of groups of families as revealed by surnames to be considered. A tabulation and analysis of the colour characters of surname groups for each surname would show whether they were really associated, like family groups, or were merely samples of the general population. The degrees of resemblance of brothers and sisters would be determined on numbers hitherto undealt with and would confirm or otherwise the measures found from the numerically smaller English data. Finally, the degrees of resemblance between the various kinds of cousins, an investigation suggested to the author by Professor Karl Pearson, await determination*, and the determination cannot be made until the almost overwhelming mass of data bearing on cousinships has been also tabulated.

(*β*) *Comparisons.* The correlation between hair and eye colour has been determined, the contingeney method being used, for one Scottish group, namely, 19,279 school children of the city of Aberdeen, and also for 1000 children taken at random from the entire pigmentation data. The following two tables give respectively (Table LXI.) the results of the observations of hair and eye combinations in the city of Aberdeen, and (Table LXII.) the values of the contingency coefficients. The author's results for other Scottish populations and those from British and continental returns are given alongside for the purpose of comparison.

TABLE LXI.

Hair and Eye Table. 19,279 *Children in the City of Aberdeen.*

Eyes.	Hair. Fair	Red	Medium	Dark	Jet Black	Totals
Blue ...	1105	131	885	348	1	2470
Light ...	2285	405	2434	851	9	5984
Medium ...	1208	360	3242	1601	29	6440
Dark ...	366	209	1621	2094	95	4385
Totals ...	4964	1105	8182	4894	134	19279

These results show, if it is a mark of racial purity of any race to have its individuals all of one hair colour and of one eye colour, that the Prussian school children are relatively more homogeneous than the Scottish school children, and that the latter in turn are more homogeneous than the British schoolboys generally, since the value of the correlation is lowest in the case of the Prussian children and highest in the case of the British schoolboys. It may be here noted that if two races, one of the blonde type and one of the brunette type, were present in a population in equal proportions, the degree of correlation between hair colour and eye colour would be equal to unity. On the other hand, (1) the

* The author intends to hand over the classified data on cousinships to Professor Pearson as soon as they have been abstracted and tabulated.

TABLE LXII.

Correlations. Hair and Eyes.

Population	Contingency Coefficient	Returns by	Reference
Scottish Children, General, 1903	·3453	J. F. Tocher	This Memoir
Scottish Children, East Aberdeen, 1896 ...	·3802	„	„
Scottish Children, Aberdeen City, 1903 ...	·3361	„	„
British Schoolboys	·4203	K. Pearson	*Biometrika*, Vol. III. p. 461
Prussian Children	·2714	R. Virchow	„ „
Jewish Children	·3381	„	„ „
Adult Scottish Population	·3673	J. F. Tocher	*Biometrika*, Vol. V. p. 339
Male Asylum Inmates	·3039	„	„ „
Female Asylum Inmates	·2994	„	„ „
Swedish Conscripts	·2495	G. Retzius	*Biometrika*, Vol. III. p. 461
Italian Conscripts	·3091	R. Livi	„ „
Baden Conscripts	·3540	O. Ammon	„ „
Mean of above values	·3312		

more this population in time and through intermarriage was thoroughly crossed, or (2) the nearer this population came to consist of members entirely of either race, the smaller would be the value of the correlation and the nearer it would approach to zero. Looked at from this point of view, a large value for the correlation would mean heterogeneity in that population and a small value greater homogeneity.

Judging from the above results, the correlation between hair and eyes does not appear very close in any of the countries. With more local groups it is probable that in countries like Prussia and Italy less association would be found.

In the further investigations on the data of this survey, it will be interesting to find what values the correlation coefficients take in the various districts; particularly (α) in those where one type has been found to be predominant, and (β) in those sparsely populated parts where two diverse types were found.

(13) *Summary of the Results.*

I. The general result of the Pigmentation Survey of School Children in Scotland shows that, of the 502,155 children surveyed, about one-fourth are fair-haired, one-fourth dark-haired, and nearly one-half belong to two intermediate classes embracing the various shades of brown or medium and red hair. The proportion of the brown or medium class in the boy population is about 43 per cent., and in the girl population 41 per cent. The class embracing the various shades of red hair constitutes about 5 per cent. of the population. In the dark-haired group there are two classes—a large class with dark brown hair approaching to black,

and a small class with jet black hair. This latter class constitutes only $1\frac{1}{4}$ per cent. of the total population. The girl population contains a higher proportion of the fair-haired class than the boy population, over 27 per cent. as against 25 per cent. There is a correspondingly less proportion of the medium or brown-haired class in the girl population. The cause of this difference is not quite apparent. It should be remembered that the children surveyed are those of school age—a fairly wide range, from 6 to 18—and that hair colour in children gets visibly darker as the children get older. If the children were classed according to age and their colour characters tabulated, it would be ascertained whether or not the difference was due to an earlier darkening in hair colour among the boy population, or whether the boy population was really significantly darker in hair colour from infancy than the girl population. From the results of observations of the physical characters generally of both sexes, a really significantly darker boy population from natural causes is improbable. It should moreover be remembered that, in determining hair colour, boys and girls are not judged exactly under the same conditions. Hair colour in girls is generally judged from long tresses. These are usually absent in boys, whose hair colour is judged from the shorter mass. Besides, girls' hair frequently shows extreme variety of tint from tip to root. Another possible explanation is the stimulus given to the increase of pigment by hair cutting in the boy population. This explanation requires verification from observations, (α) on a population of children in which the conditions are the same, and (β) on the adult population.

The results of the observations on eye colour show that over 22 per cent. (nearly one-fourth) of the school children of Scotland have dark brown or dark eyes, and over three-fourths of the population possess blue, light or medium eyes. About 15 per cent. possess pure blue eyes, 30 per cent. light eyes, and about 32 per cent. (nearly one-third of the population) possess eyes of the mixed type —the varieties classed as medium eyes.

Comparing these general results with the results of similar surveys in foreign countries, it is seen that they differ markedly in many respects. In Northern Europe, between the same latitudes as Great Britain lies from Frankfurt, Prague and Cracow in the south to Christiania, Stockholm and St Petersburg in the north, one finds a heterogeneous population in which the fair-haired class predominates. In Prussia alone, 72 per cent. or nearly three-fourths of the children are fair-haired. In Sweden, a similar proportion of the adults are fair-haired. In Schleswig, 80 per cent. of the children are fair-haired; in Saxony, 69 per cent. Germany, south of Frankfurt and Coburg, is distinctly darker than the northern and larger portion. But even in South Germany the proportion of the fair-haired class far exceeds that found in Scotland. In Alsace and Lorraine the proportion is 47 per cent.; in Baden 58 per cent.; in Würtemberg 62 per cent.; and in Bavaria 54 per cent. The difference in the distribution of eye colour is not so marked. Prussia is somewhat similar to Scotland in its eye colour, the proportions being in Prussia 43, 33 and 24 as against 45, 33 and 22 in Scotland for light,

medium and dark eyes respectively. Germany as a whole has a significantly greater proportion of dark eyes than in Scotland, 32 per cent. as against 22 per cent. Scotland does not resemble Italy in any respect, except that in both medium is the predominant class in hair colour. In Italy, however, the proportion is significantly greater, 60 per cent. as against 43 per cent. in Scotland. Nowhere on the Continent does one find a distribution of hair colour similar to Scotland. It remains to be seen, when observations are made on English, Welsh and Irish children, in what respects these will differ from the results for Scottish children as shown by this survey. The difference between Pearson's series of 4000 children and Scottish children is not very great.

II. The results of this survey show that the distribution of colour is by no means uniform throughout Scotland. On the contrary, there are well-defined areas where the proportions of the various classes exceed quite significantly the proportions which would occur if the population were as evenly distributed throughout Scotland as, say, the grain of a cornfield is sown by the farmer. In this example, the distribution of the grain is not *absolutely* uniform, but the farmer succeeds in preventing excessive deposits of grain in one part and meagre deposits in another. An enumeration of the number of seeds in each square yard, and an analysis of the numbers would show that the *intention* had been to make a uniform distribution. No such uniform distribution of the population of Scotland is found when the population is considered in sections as represented by the various colour classes. This is quite apart from the density of the population, which is well known to be very far from being uniform. The *proportions* of the various classes quite exceed in the expected values in many localities.

Excesses of blue eyes and fair hair occur mainly in the north of Scotland and are common for both sexes to Orkney, Shetland, the isle of Lewis, Ross, Cromarty, Elgin, Nairn and Perth, and portions of Stirling, Forfar and Fife; also to Ayr and portions of Renfrew and Lanark in the west and Berwick in the east; in all representing only about 1,000,000 of the population; that is, about one-fifth of the whole population of Scotland has a significantly greater proportion than the average of the fair-haired and blue-eyed classes, the excesses being common to both sexes. In the girl population the distribution of excess of both classes is greater; it extends to a population of nearly two millions in the case of fair hair and to about a million-and-a-half in the case of blue eyes. The distribution of red hair is fairly uniform throughout Scotland. The region of marked excess for a large area is the north-east of Scotland. Isolated cases of excess occur in Sutherland and in the north-east of Lanarkshire. Excessive proportions of medium or brown hair occur in Glasgow, Govan, Dundee, and in the counties of Renfrew, Selkirk and Peebles. The excess in Leith for the boy population is also probably significant, as also the excesses in the counties of Stirling (girls), Linlithgow and Bute (boys). Excess of this class (see VII.) is peculiar to densely populated districts. Excess of dark hair is peculiar to the west of Scotland, the only eastern county showing excess of this class (boys only) being the small county of Kin-

cardine. The counties of Inverness and Argyll, and the city of Glasgow, show excess of this class for both the boy and girl populations. Kirkcudbright and Sutherland (boys), and Renfrew (girls), also show significant excess. The west is also the region of excess of jet black hair, a small class numerically. Altogether there are only about 6000 children out of a total of over 500,000 who possess jet black hair. The excess is common to both sexes in the counties of Perth, Inverness, Ross and Cromarty. Caithness (boys) and Argyll (girls) also show significant excess. Excess of blue eyes has already been stated to be common to the north. Significant excess of light eyes is common to Argyll and Dumbarton in the west and to Leith in the east. Kincardine and Kirkcudbright both show significant excess of this class in the girl population. Significant excess of medium eyes is peculiar to the great cities, Glasgow, Aberdeen (girls), Leith (girls), and Dundee (girls); and to the county of Lanark generally. Significant excess of dark eyes is also peculiar to the great cities, Glasgow, Edinburgh and Dundee. The county of Forfar shows significant excess for the girl population.

III. Many parts of Scotland quite resemble the general population in hair colour and eye colour. These parts are usually densely populated. Notable exceptions occur. Glasgow is the striking example. The presence of non-Scottish elements and of excess of the Highland element makes Glasgow unrepresentative. The populous East-Midland division is most representative of the general population in hair colour. The populous counties, Forfar, Fife, Stirling and Dumbarton, and the city of Edinburgh are fairly representative of the general population. The counties which diverge largely in hair colour from the general population, and have therefore non-representative populations, are Ross, Cromarty, Inverness and Argyll, the divergency being common to both the boy and girl populations. The divergency in the case of Argyll is due to excess of dark hair and jet black hair, and in the other cases to excesses of both fair and dark. The divergency in the north-east of Scotland is due to excess of red hair and fair hair. The seaboard on the west coast from Sutherland to Mull is highly divergent, due to significant excess of dark hair and jet black hair. In eye colour, the Southern and South-Eastern divisions are the most representative; the North-Western and South-Western the most divergent. Orkney, Shetland, Sutherland, Ross, Cromarty, Inverness, Elgin, Nairn and Forfar all diverge because of excess of blue eyes; in Sutherland and Forfar excess of dark eyes also contributes to the divergency. In the cities of Glasgow and Dundee, the divergency is due to excess of medium and dark eyes; in Aberdeen to medium; and in Leith to light and medium. The counties of Argyll, Dumbarton and Dumfries in the west diverge because of excess of light eyes; and Ayr because of blue and light. The isle of Lewis diverges because of excess of blue eyes and the isles of Jura and Islay because of excess of light. These islands contribute largely to the divergency of their respective counties, Inverness and Argyll.

IV. It has been proved (see II. and III.) that excesses in the various classes, or positive differences much in excess of the expected, occur all over the country,

frequently in contiguous areas, thus indicating a differentiation for each class from the general population. In measuring the degree of geographical separation or local segregation for each class, it has been proved that the blue-eyed and fair-haired classes have the greatest degree of local segregation. The segregation of these classes from the others is excessively great. Children belonging to these classes are congregated more in sparsely populated regions than in densely populated or moderately populated parts. The medium haired and medium eyed classes show the next greatest degree of local segregation. Children of these classes are congregated more in towns and in densely populated parts. The other classes all show a high degree of segregation except the red-haired class, which is almost uniformly distributed throughout the country. But for the regions of excess in the north-east of Scotland and in one or two other isolated and much smaller areas the distribution of this class would be practically uniform. This fact suggests that the occurrence of red hair (α) is independent of race, or (β) is one of the effects of blending of races, perhaps widely divergent races, or (γ) is an abnormal condition in hair colour and deserves the attention of the physiologist and pathologist. The statement of Tacitus as to the red-haired Caledonians points at least to the fact that red hair was a trait among the inhabitants of the north of Scotland in earlier times, and it is a striking circumstance that excess of this class is found in the region referred to by him.

V. It has been found that regions of excess of the dark-haired, jet black haired and blue-eyed classes are associated with regions of excess of the Gaelic speaking population. The measure of the association is given. This association was to be expected, seeing that these classes occur in excess in western counties, where the population is bilingual and where Gaelic is the mother tongue of a large proportion of the inhabitants. A typical Scoto-Kelt is therefore blue-eyed and dark-haired, but the light-eyed dark-haired type is also common in Argyll and its Isles. It will be seen later (XVI.) that there is a similar Irish type.

VI. It is proved that foreign immigrants tend to reside in the most densely populated areas in Scotland and in districts where families live in one or two rooms. The children of foreign immigrants have an effect,—scarcely an appreciable one,—on the population of Scotland as a whole, but in certain very densely populated parts they have a distinct effect. For example, it is shown that in certain divisions of Glasgow, Tradeston and Gorbals (see XVI.), the proportion of school children of foreign origin is so high as to change completely the nature of the distribution of hair colour and eye colour.

VII. It is proved that densely populated regions are positively correlated with excesses of the following classes: medium hair, medium eyes and dark eyes. The more densely populated a region is the greater will be the proportions of these classes in the population, and conversely, the more sparsely populated a region is, the smaller on an average will be the proportion of the classes just named.

VIII. It is well known that mortality is higher in more densely populated regions than others. It has been proved (see VII.) that certain classes are more characteristic of crowded areas than others. It is therefore to be expected that these classes would be positively correlated with the death rate. It is shown that an increase in the proportions of medium hair and dark eyes is associated with an increase in the death rate. This does not necessarily mean that persons belonging to these classes are less virile but simply that a large proportion of them live under conditions which are productive of a higher mortality. A direct investigation to determine whether any colour class is associated positively with a high death rate is desirable.

IX. It is shown that neither the Highland, Irish, English nor foreign elements in the population account for the high proportion of medium hair found in all densely populated regions. These elements however (excepting the English) where present, tend to increase the proportion of dark and jet black hair.

X. It is proved that the number of births per family is greater on an average in densely populated parts, and, as a consequence, that the number of births per family is greater where there are large proportions of medium hair and medium eyes. The lower classes are found in the denser centres. Thus it is likely that the medium haired, medium eyed lower classes are on an average more fertile than the remaining population. Here again a direct investigation is desirable.

XI. The main cause of the large excess of medium hair in densely populated parts probably arises from the blending of colour in the offspring of fair-haired and dark-haired persons: it is pointed out that blended inheritance exists in hair colour and what is wanted is a measure of its intensity. In densely populated areas, greater opportunities for intermixture of races occur, and it is shown (II. and III.) that in the large sparsely populated districts fair hair and dark hair, indicative of at least two different types, occur in excess, while in the urban regions these excesses mainly disappear and excess of medium hair appears.

XII. The excess of dark eyes in urban areas does not appear to be explainable in the same way. It has been suggested that exclusive inheritance in eye colour may be one of the causes of the excess in these areas. In the offspring of dark-eyed and blue-eyed parents it is possible that reversions may occur, maintaining the dark-eyed type.

XIII. The extent of the association of the colour classes geographically has been determined. One of the main results shows that as a rule medium hair is associated geographically with no other hair colour and goes to confirm the theory that medium hair is a blend. Thus it is to be expected that the proportion of this class will increase, tending to make the hair colour of the Scottish people more and more uniform. Excess of red hair is found as a rule only in regions where the proportion of dark hair is well below the average; a slight excess of fair is associated with excess of red. There is no positive association geographically of

any class with light eyes. Excess of blue eyes occurs alone, but excesses of dark eyes and medium eyes as a rule occur together.

XIV. It has already been shown elsewhere by the author that where there is an excess of light eyes in the population the number of cases of insanity is above the average and *vice versa*. It is now shown here that a greater number of cases of imbecility, blindness and deafness occurs in regions where blue eyes, dark and jet black hair are in excess. It has been already pointed out (see V.) that these classes are associated with the Gaelic speaking population. A direct determination of the relationship shows that significantly greater numbers of cases of these defects occur in Gaelic speaking regions than throughout the rest of Scotland. This is most probably due to the greater rate of emigration of the fitter portion from, and the relative absence of immigration to, the Highlands.

XV. The degree of resemblance between the boy and girl populations has been determined. It is found that positive and negative differences in the boy population are mainly associated with positive and negative differences in the girl population in the same regions. The resemblance is least in the red and dark-haired classes and greatest among the medium-haired and blue-eyed classes. The resemblance is closer in eye colour than in hair colour.

XVI. Glasgow so greatly diverges from the general population in hair colour and eye colour that it has been made the subject of a special investigation. The various municipalities constituting Greater Glasgow, as well as its environs, have been included in the investigation. It is shown that the Highland, Irish, foreign elements all contribute to increase the proportion of the dark-haired classes. Tradeston and Gorbals have greater proportions of dark hair, jet black hair and dark eyes, mainly due to the large foreign element present in these populous divisions. The detailed analysis shows that the immigrants are of Russian origin and this is confirmed by direct enquiry. More than 500 Jewish children attend school in these divisions. Dark hair, jet black hair, dark eyes are the leading classes in this population. The Highland and Irish elements are found all over the city. It is shown that the Irish resemble to a great extent in colour characters the Highland population. Both contribute very largely to the excess of dark hair. Medium hair is in excess all over the city, as expected, since this class is associated with density and since Glasgow contains a greater number of persons per square mile than any other part of Scotland. The high proportions of these classes (dark and medium) cause a corresponding defect in the proportion of fair hair in Glasgow. Only in one or two divisions, St Rollox, Dennistoun, and the Paisley district, does the proportion of fair hair approach the average for Scotland. In all the other divisions fair hair and blue eyes are distinctly below the average. It cannot be said from the results of this survey whether fair-haired and blue-eyed children are less fit for town life than the other classes, but the defect in fair hair at least is quite explainable on the ground that the proportion is disturbed (α) by a darker Scoto-Keltic or Highland element, (β) by a darker Irish element, (γ) by a darker foreign element and (δ) by the effects of blending of

fair and dark producing the various shades of brown classed as medium. All these contribute to the result and, taken together as a whole, are sufficient to cause the defect in the proportion of fair hair. *Entia non sunt multiplicanda.* It is probable that the country north-east and contiguous to Glasgow may contribute to the excess of dark eyes, but it is also probable, since the lower classes are more fertile, since dark eyes are associated with density, and since it has been shown elsewhere that dark eyes are associated with greater fertility, that greater fertility may contribute to produce the excess found in Glasgow.

XVII. The population of East Aberdeenshire which was surveyed in 1896 has possibly become slightly darker in hair colour and lighter in eye colour in the eight years' interval. The change does not appear to have taken place in the rural districts but is more likely to have taken place in the two towns, Peterhead and Fraserburgh.

XVIII. The regions of excess and defect in hair colour and eye colour as found in surveying the Scottish insane correspond in many cases to similar regions as found by this survey. In others they do not agree. This arises mainly from (α) the fact that the insane are a somewhat selected population, (β) the fact that they are adults and not therefore directly comparable and (γ) the fact that the numbers are small compared with the numbers in this survey.

XIX. Several of Dr Beddoe's results have received confirmation, but the remarks on the Scottish insane (see XVIII. above) apply to his observations. His results are not directly comparable.

XX. The degree of association between hair colour and eye colour found from the results of this survey corresponds very closely to the values already found from other British and from foreign data.

XXI. The results of this survey point to the conclusion that there are at least five types in Scotland. (α) One whose colour characters are dark hair and dark eyes; (β) dark hair and blue or light eyes; (γ) fair hair and blue eyes; (δ) a fourth type probably a product of two or more of the foregoing possessing medium hair (and perhaps dark hair) and medium eyes; (ϵ) a fifth type, possessing red hair associated mainly with medium eyes, is also present in small proportions (about 5 per cent.) and is also probably a product of two or more of the other types. These may be named respectively (α) the Dark European type (examples of subtypes: (1) Mediterranean, (2) Danish); (β) the Scoto-Keltic type; (γ) the Scandinavian or Germanic type; (δ) the Scottish type; and (ϵ) the Caledonian type.

MAPS.

			Pl.
I.	Key Map, Districts and Counties.		I.
II.	„ Divisions, Counties and Chief Towns.		II.
	Divisions.		
III.	Fair Hair,	Boys.	III.
IV.	„	Girls.	„
V.	Red Hair,	Boys.	„
VI.	„	Girls.	„
VII.	Medium Hair,	Boys.	IV.
VIII.	„	Girls.	„
IX.	Dark Hair,	Boys.	„
X.	„	Girls.	„
XI.	Jet Black Hair,	Boys.	V.
XII.	„	Girls.	„
XIII.	Blue Eyes,	Boys.	„
XIV.	„	Girls.	„
XV.	Light Eyes,	Boys.	VI.
XVI.	„	Girls.	„
XVII.	Medium Eyes,	Boys.	„
XVIII.	„	Girls.	„
XIX.	Dark Eyes,	Boys.	VII.
XX.	„	Girls.	„
	Counties.		
XXI.	Fair Hair,	Boys.	„
XXII.	„	Girls.	„
XXIII.	Red Hair,	Boys.	VIII.
XXIV.	„	Girls.	„
XXV.	Medium Hair,	Boys.	„
XXVI.	„	Girls.	„
XXVII.	Dark Hair,	Boys.	IX.
XXVIII.	„	Girls.	„
XXIX.	Jet Black Hair,	Boys.	„
XXX.	„	Girls.	„
XXXI.	Blue Eyes,	Boys.	X.
XXXII.	„	Girls.	„
XXXIII.	Light Eyes,	Boys.	„
XXXIV.	„	Girls.	„
XXXV.	Medium Eyes,	Boys.	XI.
XXXVI.	„	Girls.	„
XXXVII.	Dark Eyes,	Boys.	„
XXXVIII.	„	Girls.	„
XXXIX.	Fair Hair, Boys, Districts.		XII.
XL.	Red Hair, Boys, „		„
XLI.	Hair Colour, Local Divergencies, Boys, Divisions.		„
XLII.	Hair Colour, Local Divergencies, Girls, Divisions.		„
XLIII.	Hair Colour, Local Divergencies, Boys, Counties.		XIII.
XLIV.	Hair Colour, Local Divergencies, Girls, Counties.		XIII.
XLV.	Density of Population in Non-Divergent Counties.		„
XLVI.	Density of Population for each County in Scotland.		„
XLVII.	Hair Colour, Local Divergencies, Boys, Districts.		XIV.
XLVIII.	Hair Colour, Local Divergencies, Girls, Districts.		„
XLIX.	Eye Colour, Local Divergencies, Boys, Divisions.		„
L.	Eye Colour, Local Divergencies, Girls, Divisions.		„
LI.	Eye Colour, Local Divergencies, Boys, Counties.		XV.
LII.	Eye Colour, Local Divergencies, Girls, Counties.		„
LIII.	Eye Colour, Local Divergencies, Boys, Districts.		„
LIV.	Eye Colour, Local Divergencies, Girls, Districts.		„
LV.	Glasgow. Boys, Divergency in hair colour.		XXI.
LVI.	„ Girls, Divergency in hair colour.		„
LVII.	„ Boys, Divergency in eye colour.		„
LVIII.	„ Girls, Divergency in eye colour.		„
LIX.	„ Boys, Fair Hair.		XXII.
LX.	„ Girls, Fair Hair.		„
LXI.	„ Boys, Red Hair.		„
LXII.	„ Girls, Red Hair.		„
LXIII.	„ Boys, Medium Hair.		XXIII.
LXIV.	„ Girls, Medium Hair.		„
LXV.	„ Boys, Dark Hair.		„
LXVI.	„ Girls, Dark Hair.		„
LXVII.	„ Boys, Jet Black Hair.		XXIV.
LXVIII.	„ Girls, Jet Black Hair.		„
LXIX.	„ Boys, Blue Eyes.		„
LXX.	„ Girls, Blue Eyes.		„
LXXI.	„ Boys, Light Eyes		XXV.
LXXII.	„ Girls, Light Eyes.		„
LXXIII.	„ Boys, Medium Eyes.		„
LXXIV.	„ Girls, Medium Eyes.		„
LXXV.	„ Boys, Dark Eyes.		XXVI.
LXXVI.	„ Girls, Dark Eyes.		„
LXXVII.	„ Key Map.		„
LXXVIII.	„ Key Map with Suburban areas.		„

DIAGRAMS.

Distribution of Relative Local Differences.

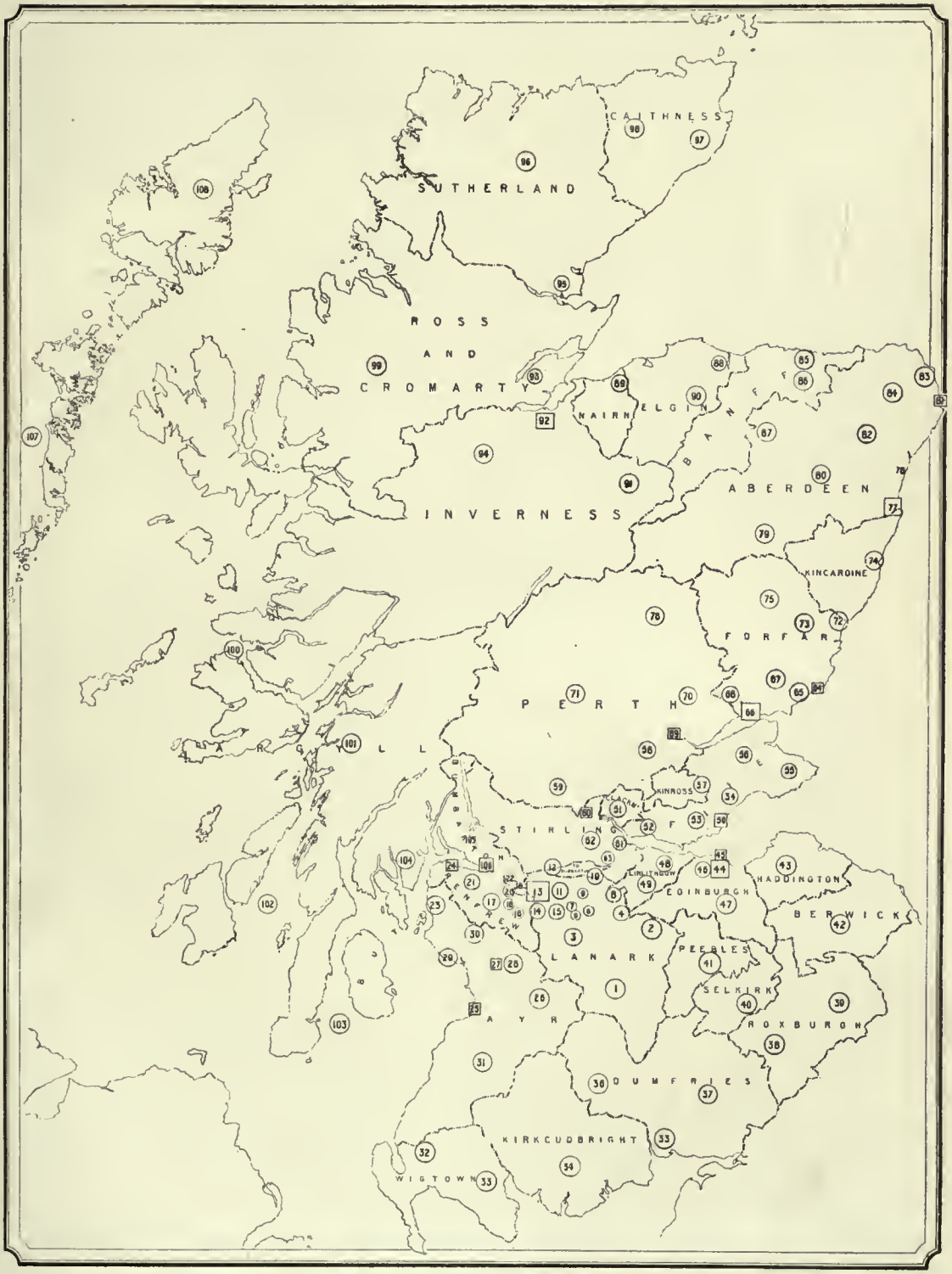
		Pl.			Pl.
I.	Boys, Fair Hair.	XVI.	IX.	Girls, Medium Hair.	XVIII.
II.	„ Red Hair.	„	X.	„ Dark Hair.	„
III.	„ Medium Hair.	„	VI.	„ Jet Black Hair.	XVII.
IV.	„ Dark Hair.	„	XV.	„ Blue Eyes.	XX.
V.	„ Jet Black Hair.	XVII.	XVI.	„ Light Eyes.	„
XI.	„ Blue Eyes.	XIX.	XVII.	„ Medium Eyes.	„
XII.	„ Light Eyes.	„	XVIII.	„ Dark Eyes.	„
XIII.	„ Medium Eyes.	„	XIX.	Relationship between Density and Other Characteristics in the Population. See p. 61.	
XIV.	„ Dark Eyes.	„			
VII.	Girls, Fair Hair.	XVIII.			
VIII.	„ Red Hair.	„			

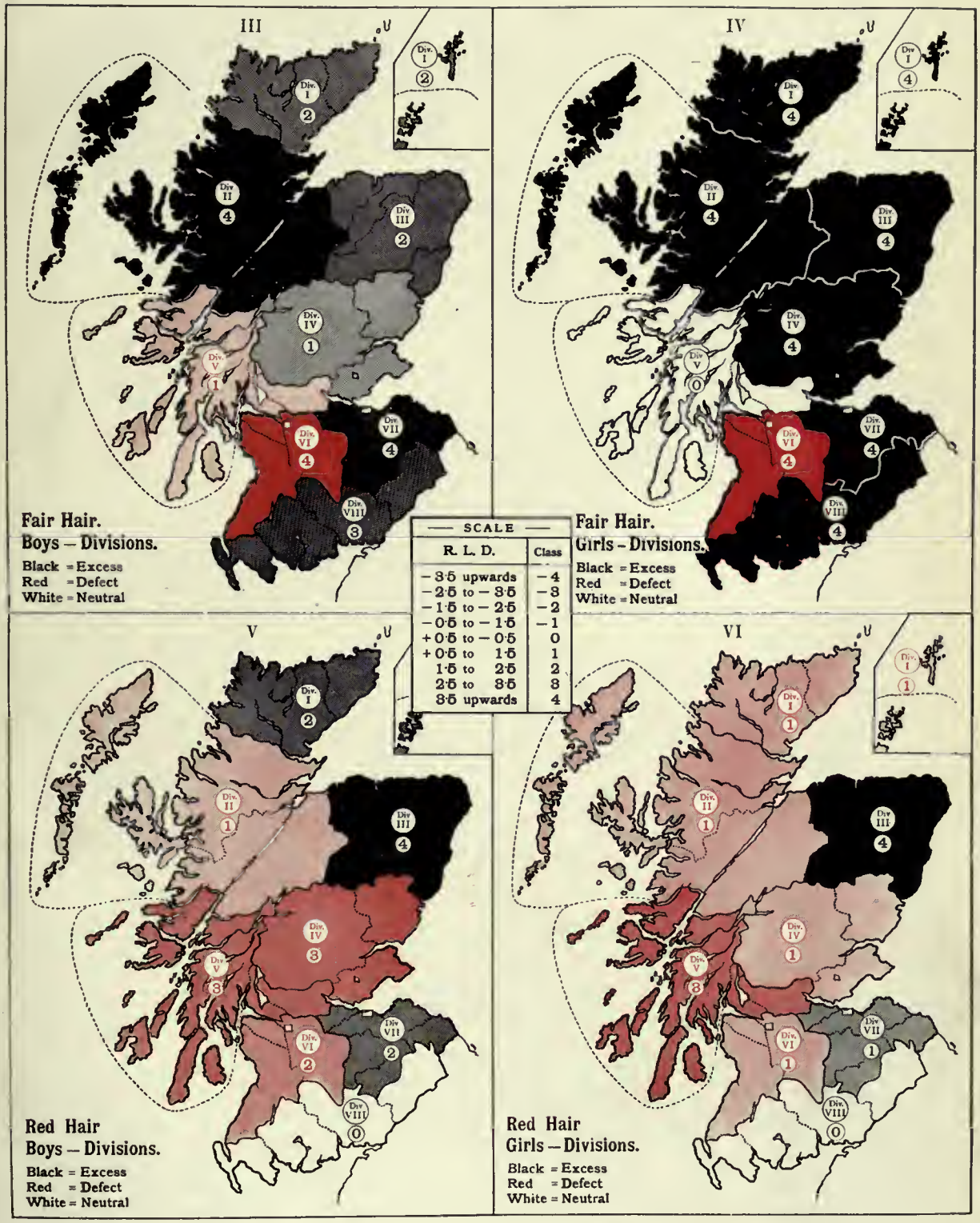
TABLES.

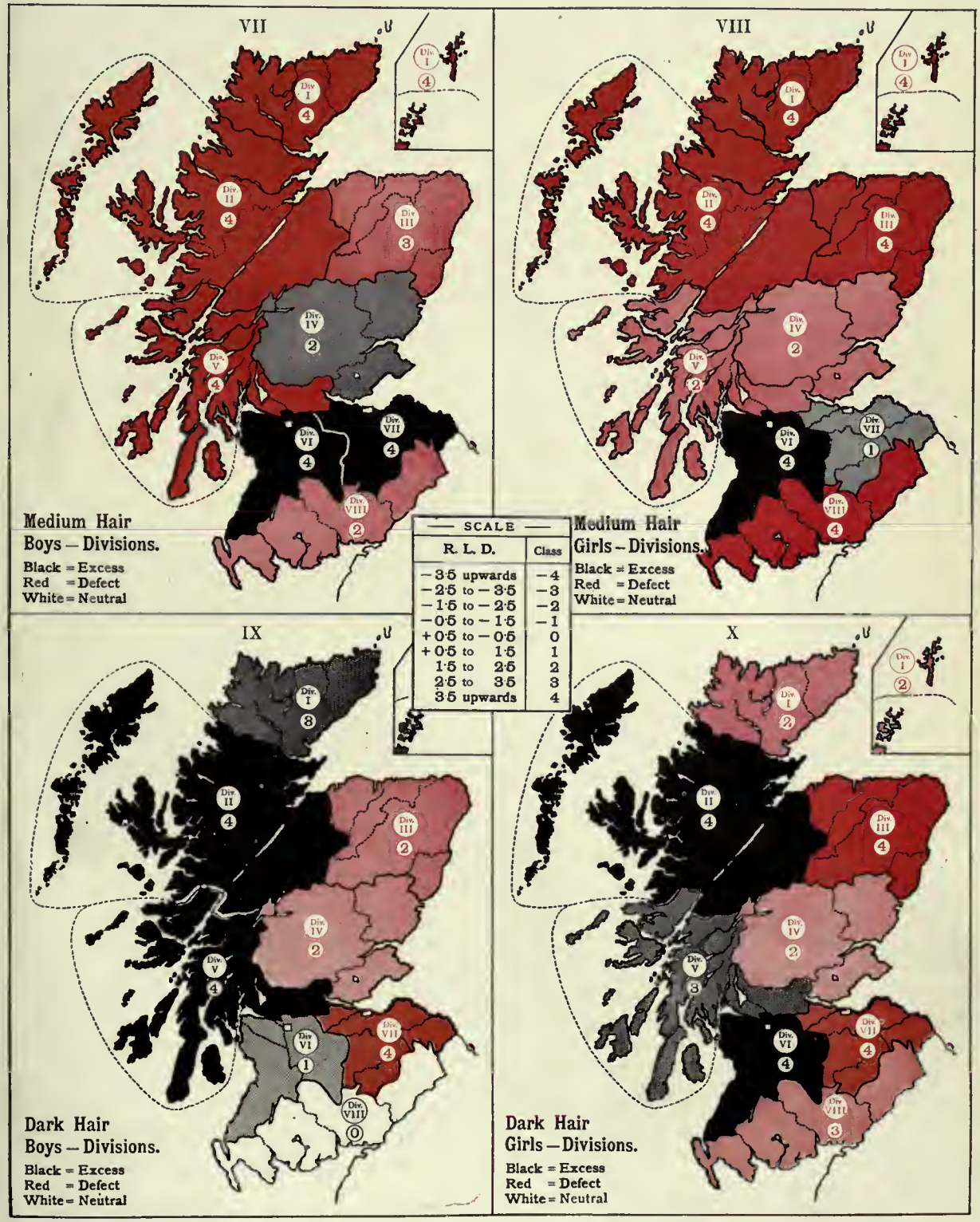
		Page			Page
I.	Analytical Table of Hair and Eye Colours . . .	4	XIX.	Divergency in Hair and Eye Colour, Divisions . .	37
II.	Schedule	6	XX.	Divergency in Hair and Eye Colour, Counties . .	38
III.	Counties (with Districts) .	10	XXI.	Divergency in Hair Colour, Districts	39
IV.	Returns Received	12	XXII.	Divergency in Eye Colour, Districts	40
V.	Class Ranges	18	XXIII.	Comparative Densities of Population	41
VI.	Colour Distribution of Scottish Children	19	XXIV.	Divergency in Hair Colour, Divisions, Counties and Districts	43
VII.	Relative Local Differences .	20	XXV.	Divergency in Eye Colour, Divisions, Counties and Districts	46
VIII.	„ „ „	21	XXVI.	Interlocal Constants, Colour Heterogeneity . . .	48
IX.	„ „ „	22	XXVII.	Heterogeneity in Colour .	49
X.	County Specification, Fair Hair, Both Sexes . .	24	XXVIII.	Probability Table, Hair and Eye Colour . . .	50
XI.	County Specification, Red Hair, Both Sexes . .	25	XXIX.	Excess Positive Frequencies peculiar to great Divisions.	52
XII.	County Specification, Medium Hair, Both Sexes . .	26	XXX.	Correlation Table, Gaelic Population and Jet Black Hair	55
XIII.	County Specification, Dark Hair, Both Sexes . .	27	XXXI.	Correlation, Hair and Eyes with Gaelic speaking Population	55
XIV.	County Specification, Jet Black Hair, Both Sexes .	29			
XV.	County Specification, Blue Eyes, Both Sexes . .	30			
XVI.	County Specification, Light Eyes, Both Sexes . .	31			
XVII.	County Specification, Medium Eyes, Both Sexes . .	33			
XVIII.	County Specification, Dark Eyes, Both Sexes . .	34			

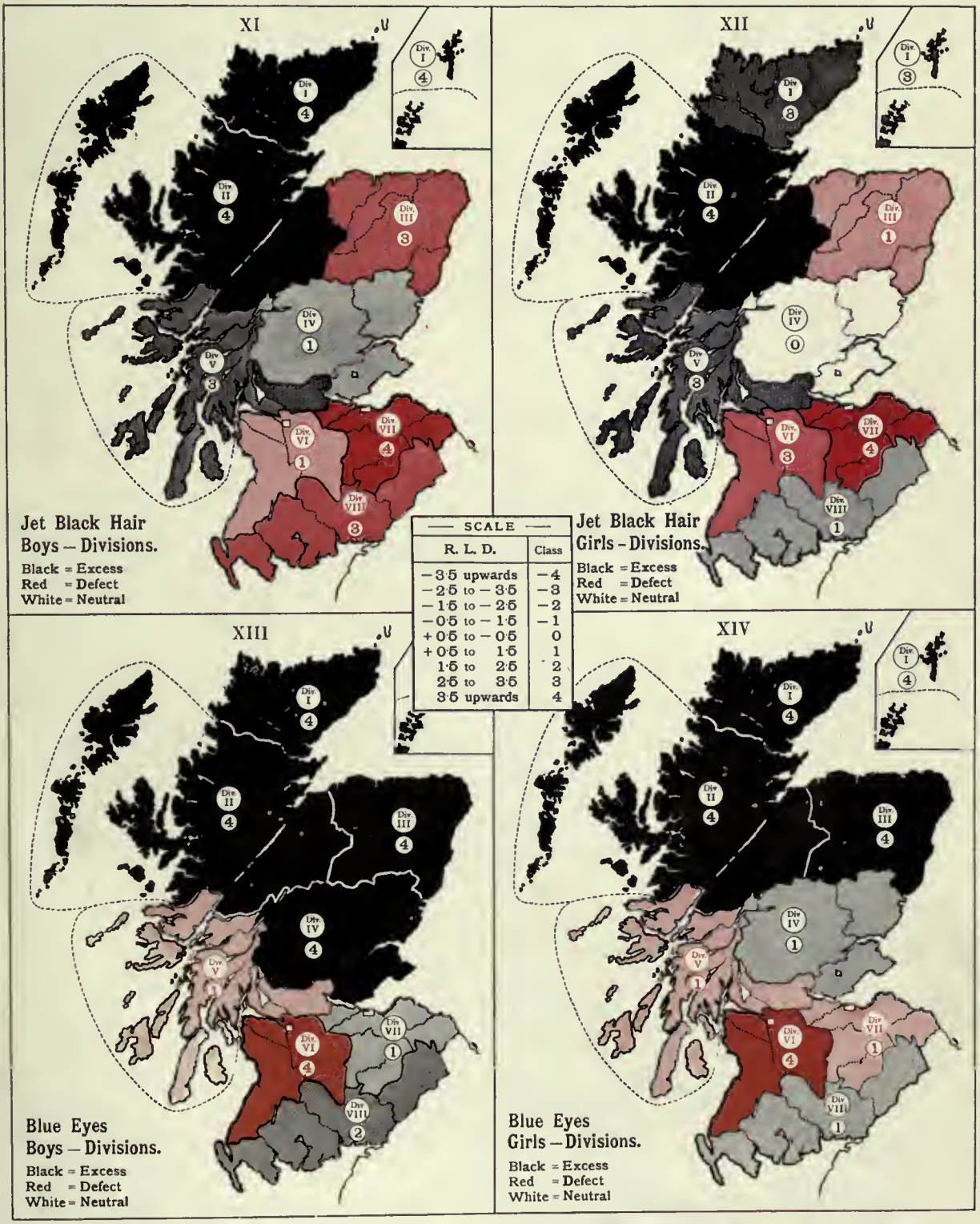
		Page
XXXII.	Density of Population, Divisions	57
XXXIII.	Foreigners in each great Division	57
XXXIV.	Correlations, Foreigners and Density	58
XXXV.	Correlations, Density and Pigmentation and Foreigners and Pigmentation	58
XXXVI.	Density and the Death Rate	59
XXXVII.	Correlations, Death Rate and Pigmentation	60
XXXVIII.	Colour Distributions, Irish, English and Scottish Adults	62
XXXIX.	Correlations, Births per family and Pigmentation	64
XL.	Associations, Colour Classes in the same Regions	68
XLI.	Classes, excesses of which are found together in the same Regions	68
XLII.	Relationships between Pigmentation and certain Defects	69
XLIII.	Relationship between the Gaelic speaking Population and Defects	70
XLIV.	Degree of Resemblance between the Boy and Girl Populations	71
XLV.	Observed and Expected Results, Glasgow and Govan	72
XLVI.	School Board Districts and Schools in Glasgow	74
XLVII.	Pigmentation groups of Greater Glasgow	75
XLVIII.	Frequencies of Colour Classes in Greater Glasgow	76
XLIX.	Relative Local Differences, Greater Glasgow and Environs	77
L.	Divergency in Hair and Eye Colour, Greater Glasgow and Environs	78
LI.	Specification of the Greater Glasgow Population	81
LII.	Condensed Specification of Greater Glasgow Population	82
LIII.	Number of Persons per square mile in Chief Towns of Scotland	84
LIV.	Population in 1901 of Chief Towns in Scotland	85
LV.	Foreign Surnames in Glasgow	86
LVI.	Colour Characters of Foreign Immigrants in Glasgow	86
LVII.	Colour Distribution of Children of Irish origin	88
LVIII.	Percentages of Children of Non-Scottish origin	88
LIX.	Relative Difference between East Aberdeenshire in 1896 and 1903	91
LX.	Comparative Table, British and Foreign Data	93
LXI.	Hair and Eye Colour, City of Aberdeen	96
LXII.	Correlation, Hair and Eyes, British and Foreign Data	97

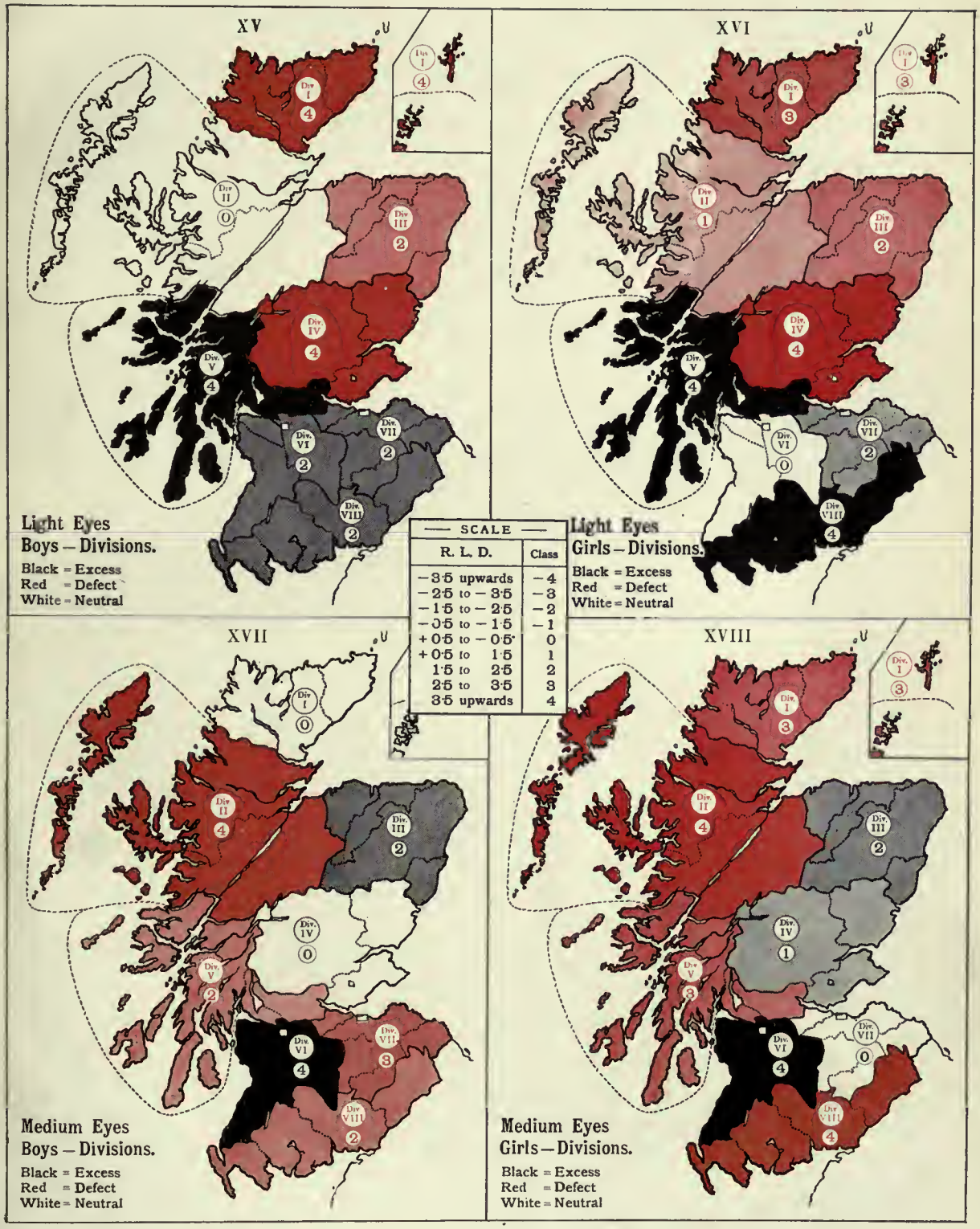
SCOTLAND
English Miles
10 5 0 10 20 30 40 Miles
SHETLAND ISLANDS
Nat. Scale 1/6,600,000
Scale of Miles
ORKNEY ISLANDS
I
II
III
IV
V
VI
VII
VIII
SUTHERLAND
ROSS AND CROMARTY
INVERNESS
ELGIN OR MORAY
NAIRN
BANFF
ABERDEEN
KINCARDINE
FORFAR
PERTH
ARGYLL
DUMBARTON
STIRLING
KINROSS
FIFE
CLACKMANNAN
LINLITHGOW
EDINBURGH
HADDINGTON
BERWICK
PEEBLES
SELKIRK
ROXBURGH
LANARK
RENFREW
AYR
BUTE
ARRAN
WIGTOWN
KIRKCUDBRIGHT
DUMFRIES
Hebrides
Western Isles
LEWIS
HARRIS
NORTH UIST
SOUTH UIST
BARRA
BENBECULA
SKYE
RUM
EIGG
MUCK
CANNA
COLL
TIREE
MULL
STAFFA
IONA
COLONSAY
ORONSAY
JURA
ISLAY
GIGHA
ARRAN
THE MINCH
LITTLE MINCH
SOUND OF SLEAT
FIRTH OF LORN
FIRTH OF CLYDE
NORTH CHANNEL
SEA OF THE HEBRIDES
ATLANTIC OCEAN
NORTH SEA
IRISH SEA
ENGLAND
Caledonian Canal
Crinan Canal
Forth and Clyde Canal
C. Wrath
Dunnet Hd.
Pentland Firth
Duncansby
Stornoway
Butt of Lewis
Ullapool
Wick
Thurso
Helmsdale
Golspie
Dornoch
Dornoch Firth
Tain
Tarbat Ness
Invergordon
Cromarty Firth
Dingwall
Beauly
Inverness
Fortrose
Forres
Elgin
Lossiemouth
Buckie
Cullen
Portsoy
Banff
Macduff
Fraserburgh
Kinnaird Hd.
Turriff
Huntly
Peterhead
Buchan Ness
Aberdeen
Inverurie
Stonehaven
Montrose
Brechin
Arbroath
Carnoustie
Tay Bridge
Dundee
Perth
Forfar
Blairgowrie
Aberfeldy
Pass of Killiecrankie
Dunkeld
Crieff
Auchterarder
Callander
Dunblane
Kinross
Leven
Elie
Anstruther
May I.
St. Andrews
Fife Ness
Cupar
Kirkcaldy
Burntisland
Firth of Forth
Inchkeith
Bass Rock
North Berwick
Dunbar
Haddington
Musselburgh
Prestonpans
Portobello
Leith
Edinburgh
Bathgate
Linlithgow
Falkirk
Stirling
Dunfermline
Clackmannan
Alloa
Inverkeithing
Queensferry
Helensburgh
Dumbarton
Greenock
Port Glasgow
Paisley
Renfrew
Glasgow
Airdrie
Coatbridge
Motherwell
Hamilton
Wishaw
Lanark
Biggar
Peebles
Innerleithen
Galashiels
Melrose
Selkirk
Jedburgh
Kelso
Duns
Berwick
Greenlaw
Eyemouth
St. Abbs Hd.
Tweedmouth
Ayr
Irvine
Kilmarnock
Muirkirk
Troon
Girvan
Maybole
Campbeltown
Mull of Kintyre
Ailsa Craig
Pt. of Ayre
Pt. of Kintyre
Lochmaben
Moffat
Lockerbie
Dumfries
Annan
Langholm
Carlisle
Solway Firth
Maxwelltown
Castle Douglas
Newton Stewart
Wigtown
Whithorn
Portpatrick
Stranraer
Luce Bay
Burrow Hd.
Mull of Galloway
Belfast
Londonderry
Loch Ness
Loch Lomond
Loch Tay
Loch Rannoch
Loch Awe
Loch Fyne
Loch Leven
Loch Katrine
Loch Lubnaig
Loch Earn
Loch Tummel
Loch Garry
Loch Shiel
Loch Arkaig
Loch Lochy
Loch Oich
Loch Eil
Loch Linnhe
Loch Etive
Loch Creran
Loch Leven
Loch Sunart
Loch Moidart
Loch Nevis
Loch Hourn
Loch Alsh
Loch Duich
Loch Carron
Loch Torridon
Loch Maree
Loch Ewe
Loch Broom
Loch Inver
Loch Assynt
Loch Shin
Loch Naver
Loch Eriboll
Loch Hope
Loch Laxford
Loch Erisort
Loch Seaforth
Loch Roag
Loch Tarbert
Loch Skiport
Loch Boisdale
Loch Maddy
Loch Obe
Loch Portree
Loch Snizort
Loch Dunvegan
Loch Bracadale
Loch Harport
Loch Scavaig
Loch Coruisk
Loch Aline

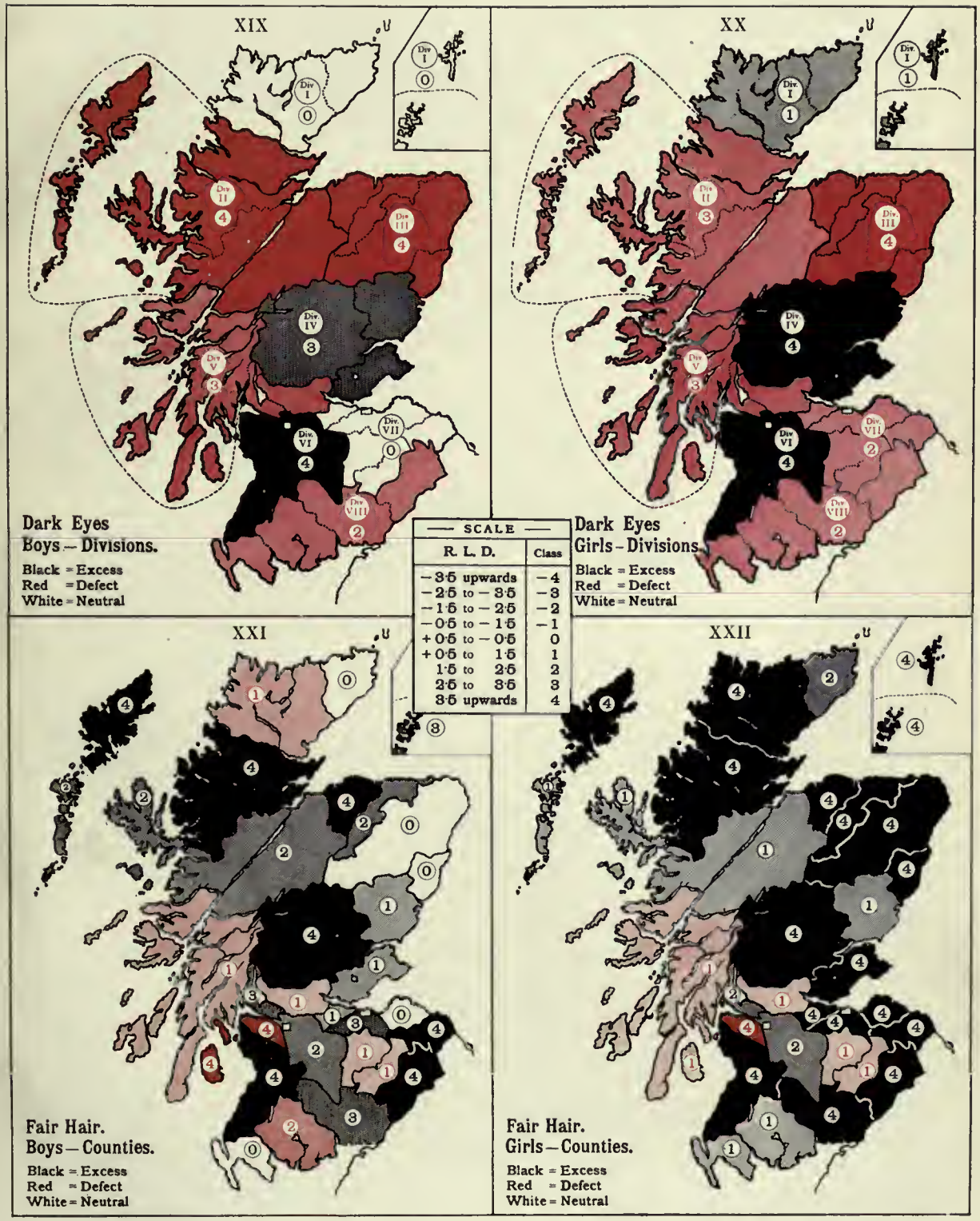

CAITHNESS
SUTHERLAND
ROSS
AND
CROMARTY
NAIRN
ELGIN
INVERNESS
ABERDEEN
KINCARDINE
FORFAR
PERTH
KINROSS
STIRLING
EDINBURGH
HADDINGTON
BERWICK
PEEBLES
LANARK
SELKIRK
ROXBURGH
AYR
DUMFRIES
KIRKCUDBRIGHT
WIGTOWN

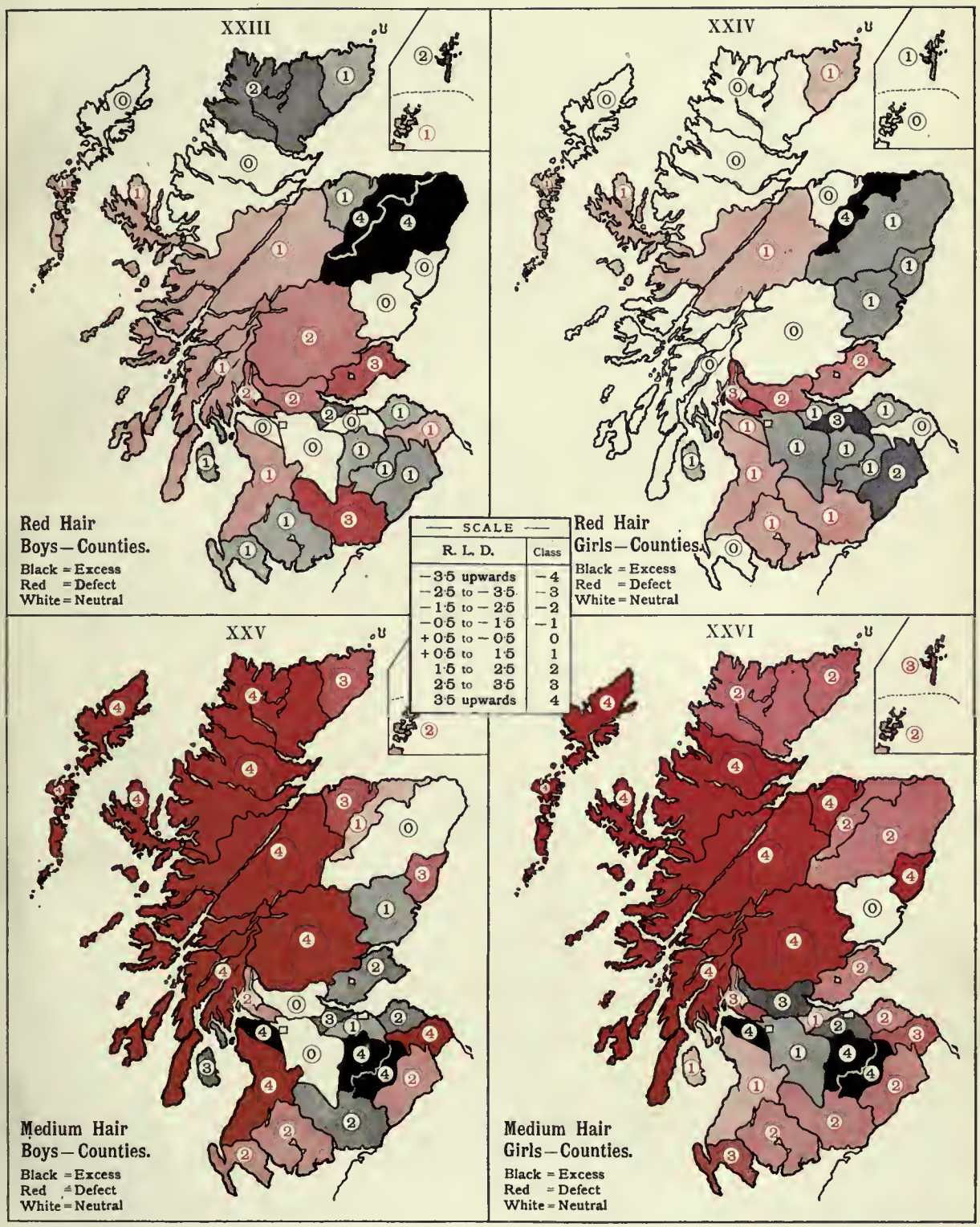

III
Div. I 2
Div. II 4
Div. III 2
Div. IV 1
Div. V 1
Div. VI 4
Div. VII 4
Div. VIII 3
Fair Hair.
Boys – Divisions.
Black = Excess
Red = Defect
White = Neutral
IV
Div. I 4
Div. II 4
Div. III 4
Div. IV 4
Div. V 0
Div. VI 4
Div. VII 4
Div. VIII 4
Fair Hair.
Girls – Divisions.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
– 3·5 upwards | – 4
– 2·5 to – 3·5 | – 3
– 1·5 to – 2·5 | – 2
– 0·5 to – 1·5 | – 1
+ 0·5 to – 0·5 | 0
+ 0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
V
Div. I 2
Div. II 1
Div. III 4
Div. IV 3
Div. V 3
Div. VI 2
Div. VII 2
Div. VIII 0
Red Hair
Boys – Divisions.
Black = Excess
Red = Defect
White = Neutral
VI
Div. I 1
Div. II 1
Div. III 4
Div. IV 1
Div. V 3
Div. VI 1
Div. VII 1
Div. VIII 0
Red Hair
Girls – Divisions.
Black = Excess
Red = Defect
White = Neutral

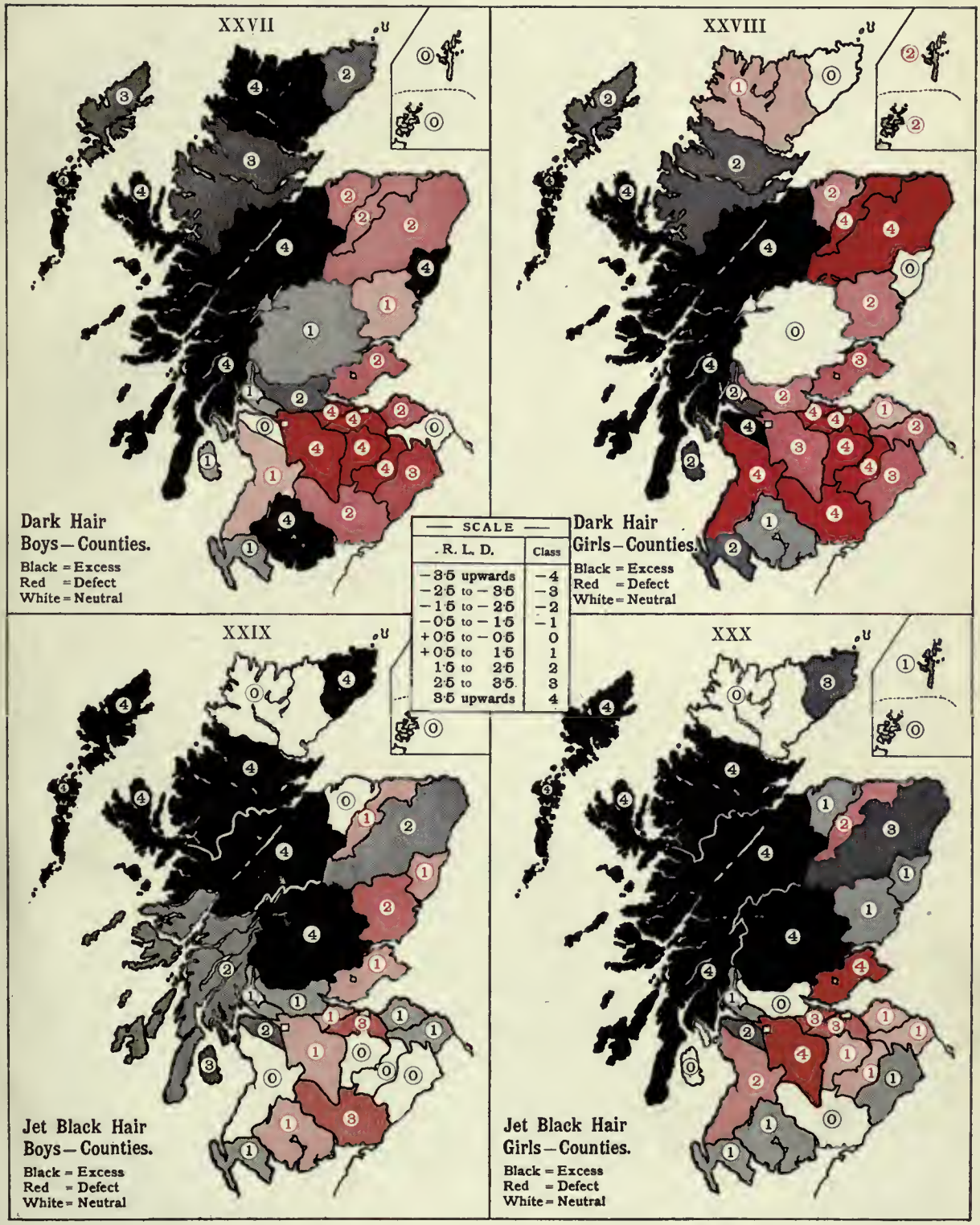

VII
Div. I 4
Div. II 4
Div. III 3
Div. IV 2
Div. V 4
Div. VI 4
Div. VII 4
Div. VIII 2
Medium Hair
Boys — Divisions.
Black = Excess
Red = Defect
White = Neutral
VIII
Div. I 4
Div. II 4
Div. III 4
Div. IV 2
Div. V 2
Div. VI 4
Div. VII 1
Div. VIII 4
Medium Hair
Girls — Divisions.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
IX
Div. I 8
Div. II 4
Div. III 2
Div. IV 2
Div. V 4
Div. VI 1
Div. VII 4
Div. VIII 0
Dark Hair
Boys — Divisions.
Black = Excess
Red = Defect
White = Neutral
X
Div. I 2
Div. II 4
Div. III 4
Div. IV 2
Div. V 3
Div. VI 4
Div. VII 4
Div. VIII 3
Dark Hair
Girls — Divisions.
Black = Excess
Red = Defect
White = Neutral

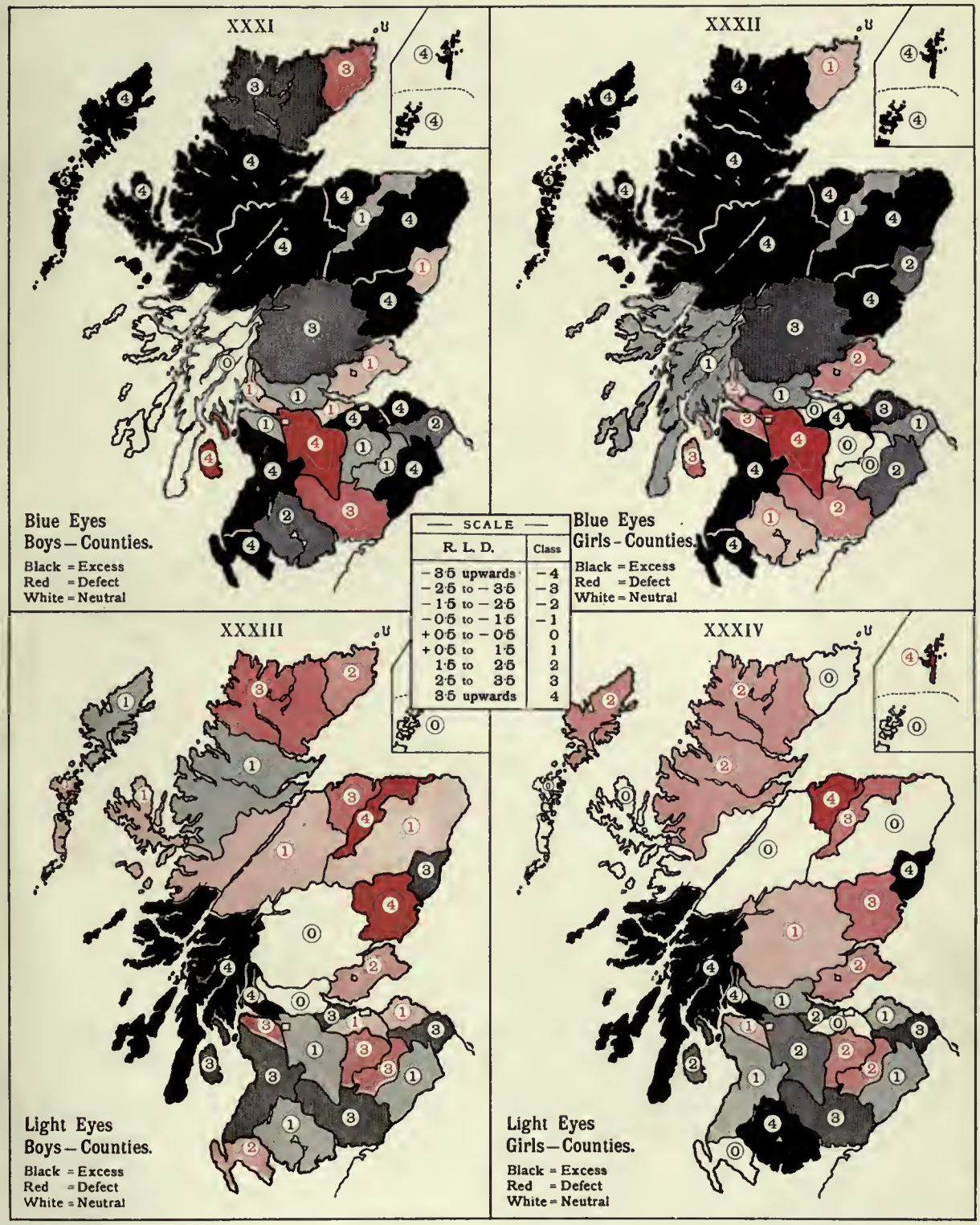

XI
Div I 4
Div II 4
Div III 3
Div IV 1
Div V 3
Div VI 1
Div VII 4
Div VIII 3
Jet Black Hair
Boys – Divisions.
Black = Excess
Red = Defect
White = Neutral
XII
Div I 3
Div II 4
Div III 1
Div IV 0
Div V 3
Div VI 3
Div VII 4
Div VIII 1
Jet Black Hair
Girls – Divisions.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XIII
Div I 4
Div II 4
Div III 4
Div IV 4
Div V 1
Div VI 4
Div VII 1
Div VIII 2
Blue Eyes
Boys – Divisions.
Black = Excess
Red = Defect
White = Neutral
XIV
Div I 4
Div II 4
Div III 4
Div IV 1
Div V 1
Div VI 4
Div VII 1
Div VIII 1
Blue Eyes
Girls – Divisions.
Black = Excess
Red = Defect
White = Neutral

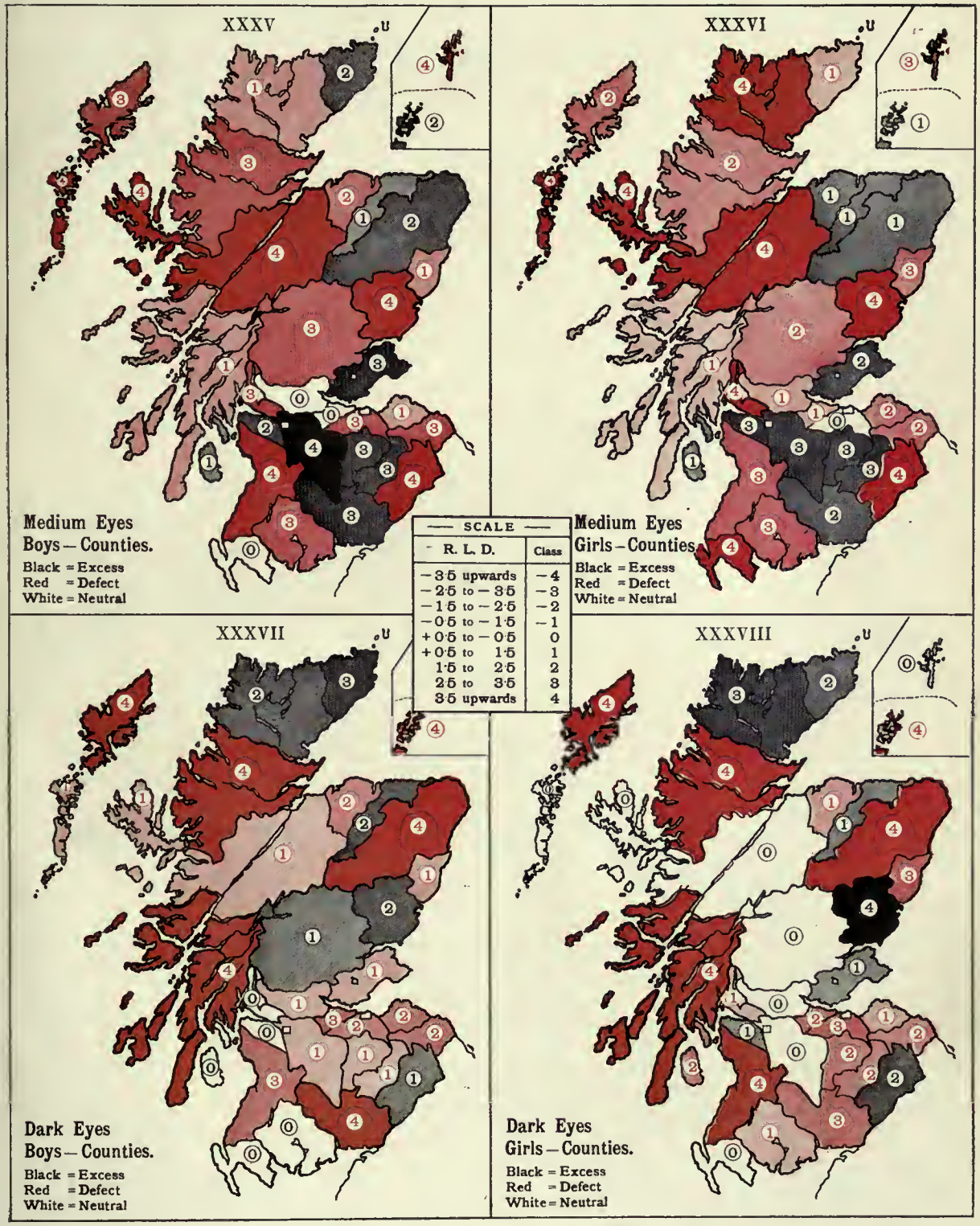

XV
Div. I 4
Div. II 0
Div. III 2
Div. IV 4
Div. V 4
Div. VI 2
Div. VII 2
Div. VIII 2
Light Eyes
Boys — Divisions.
Black = Excess
Red = Defect
White = Neutral
XVI
Div. I 3
Div. II 1
Div. III 2
Div. IV 4
Div. V 4
Div. VI 0
Div. VII 2
Div. VIII 4
Light Eyes
Girls — Divisions.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XVII
Div. I 0
Div. II 4
Div. III 2
Div. IV 0
Div. V 2
Div. VI 4
Div. VII 3
Div. VIII 2
Medium Eyes
Boys — Divisions.
Black = Excess
Red = Defect
White = Neutral
XVIII
Div. I 3
Div. II 4
Div. III 2
Div. IV 1
Div. V 3
Div. VI 4
Div. VII 0
Div. VIII 4
Medium Eyes
Girls — Divisions.
Black = Excess
Red = Defect
White = Neutral

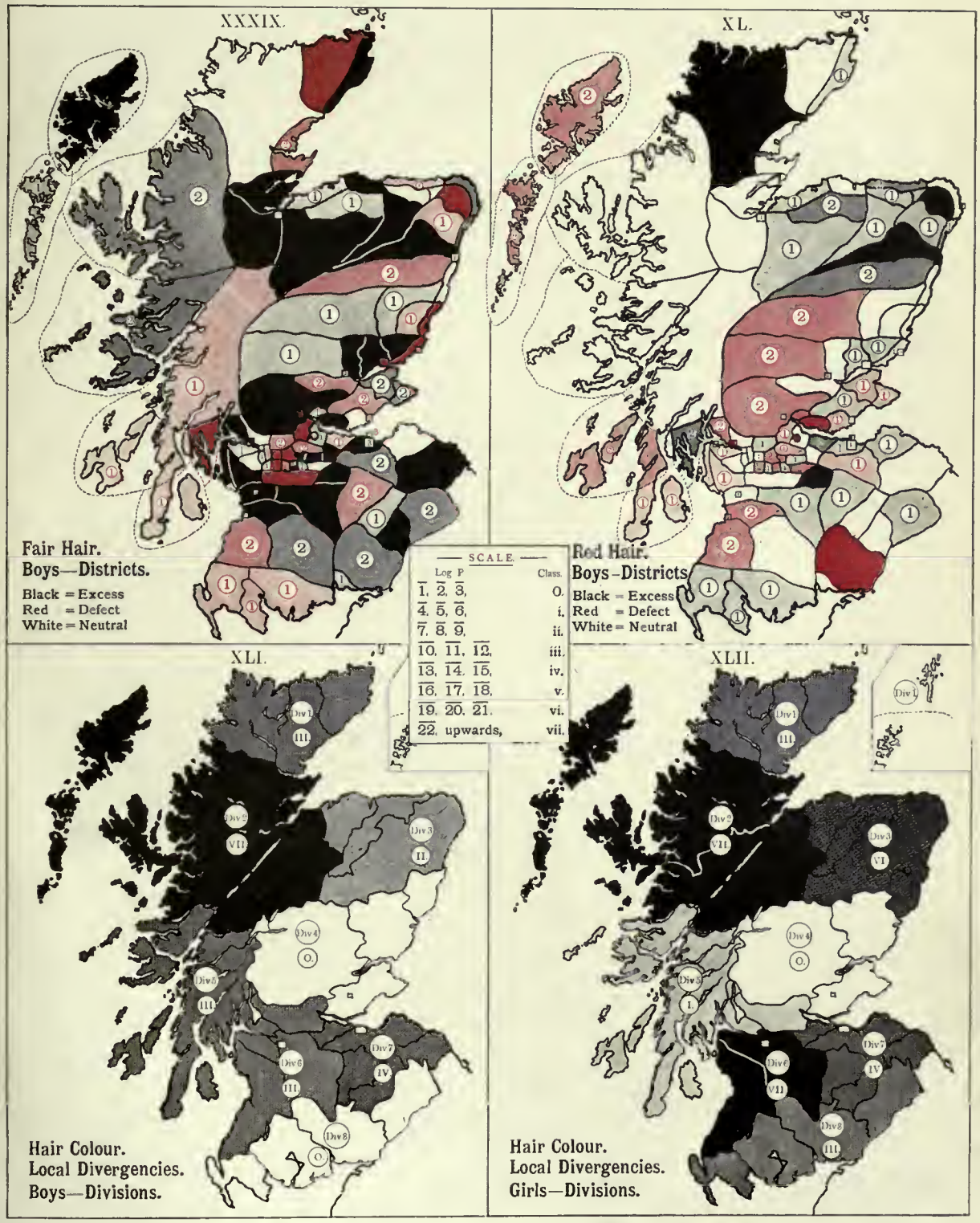

XIX
Dark Eyes
Boys — Divisions.
Black = Excess
Red = Defect
White = Neutral
XX
Dark Eyes
Girls — Divisions
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XXI
Fair Hair.
Boys — Counties.
Black = Excess
Red = Defect
White = Neutral
XXII
Fair Hair.
Girls — Counties.
Black = Excess
Red = Defect
White = Neutral

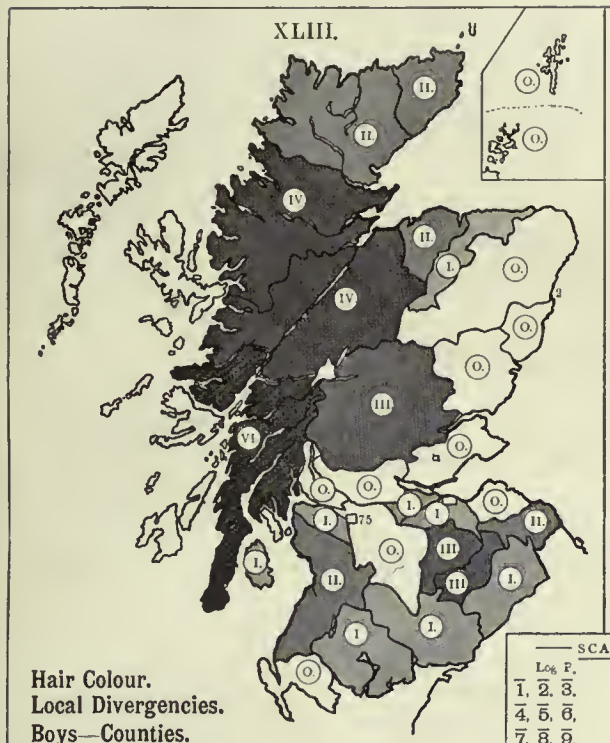

XXIII
Red Hair
Boys—Counties.
Black = Excess
Red = Defect
White = Neutral
XXIV
Red Hair
Girls—Counties.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XXV
Medium Hair
Boys—Counties.
Black = Excess
Red = Defect
White = Neutral
XXVI
Medium Hair
Girls—Counties.
Black = Excess
Red = Defect
White = Neutral

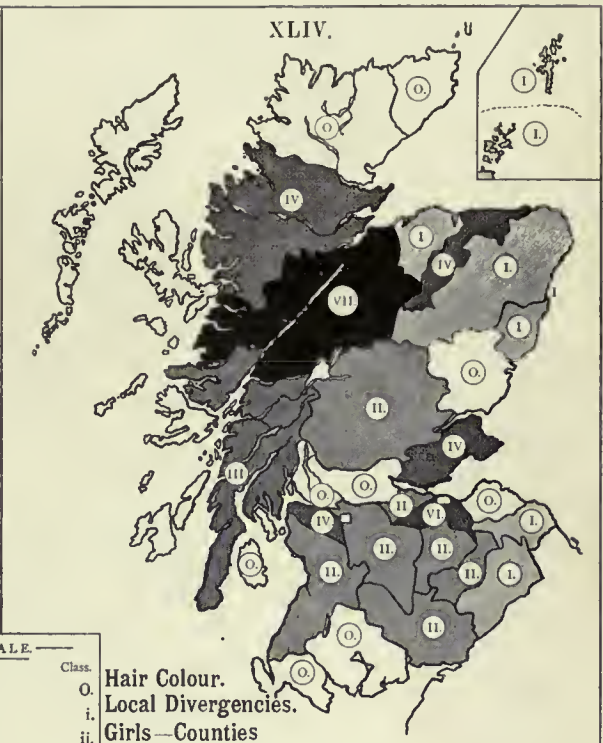

XXVII
Dark Hair
Boys—Counties.
Black = Excess
Red = Defect
White = Neutral
XXVIII
Dark Hair
Girls—Counties.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XXIX
Jet Black Hair
Boys—Counties.
Black = Excess
Red = Defect
White = Neutral
XXX
Jet Black Hair
Girls—Counties.
Black = Excess
Red = Defect
White = Neutral


XXXI
Biue Eyes
Boys — Counties.
Black = Excess
Red = Defect
White = Neutral
XXXII
Blue Eyes
Girls - Counties.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
− 3·5 upwards | − 4
− 2·5 to − 3·5 | − 3
− 1·5 to − 2·5 | − 2
− 0·5 to − 1·5 | − 1
+ 0·5 to − 0·5 | 0
+ 0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XXXIII
Light Eyes
Boys — Counties.
Black = Excess
Red = Defect
White = Neutral
XXXIV
Light Eyes
Girls — Counties.
Black = Excess
Red = Defect
White = Neutral


XXXV
Medium Eyes
Boys — Counties.
Black = Excess
Red = Defect
White = Neutral
XXXVI
Medium Eyes
Girls — Counties.
Black = Excess
Red = Defect
White = Neutral
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
XXXVII
Dark Eyes
Boys — Counties.
Black = Excess
Red = Defect
White = Neutral
XXXVIII
Dark Eyes
Girls — Counties.
Black = Excess
Red = Defect
White = Neutral

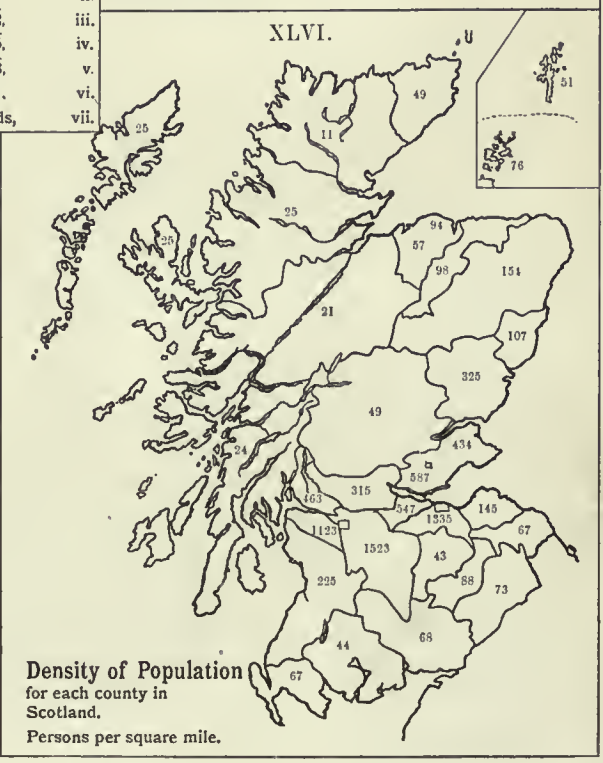

XXXIX.
Fair Hair.
Boys—Districts.
Black = Excess
Red = Defect
White = Neutral
XL.
Red Hair.
Boys—Districts.
Black = Excess
Red = Defect
White = Neutral
SCALE
Log P
Class.
1, 2, 3, O.
4, 5, 6, i.
7, 8, 9, ii.
10, 11, 12, iii.
13, 14, 15, iv.
16, 17, 18, v.
19, 20, 21, vi.
22, upwards, vii.
XLI.
Hair Colour.
Local Divergencies.
Boys—Divisions.
XLII.
Hair Colour.
Local Divergencies.
Girls—Divisions.





SCALE.

$\log_6 P$.	Class.
$\bar{1}$, $\bar{2}$, $\bar{3}$,	0.
$\bar{4}$, $\bar{5}$, $\bar{6}$,	i.
$\bar{7}$, $\bar{8}$, $\bar{9}$,	ii.
$\bar{10}$, $\bar{11}$, $\bar{12}$,	iii.
$\bar{13}$, $\bar{14}$, $\bar{15}$,	iv.
$\bar{16}$, $\bar{17}$, $\bar{18}$,	v.
$\bar{19}$, $\bar{20}$, $\bar{21}$,	vi.
$\bar{22}$, upwards,	vii.



XLVII.

Hair Colour
Local Divergencies
Boys—Districts

XLIX.

Eye Colour
Local Divergencies
Boys—Districts

SCALE

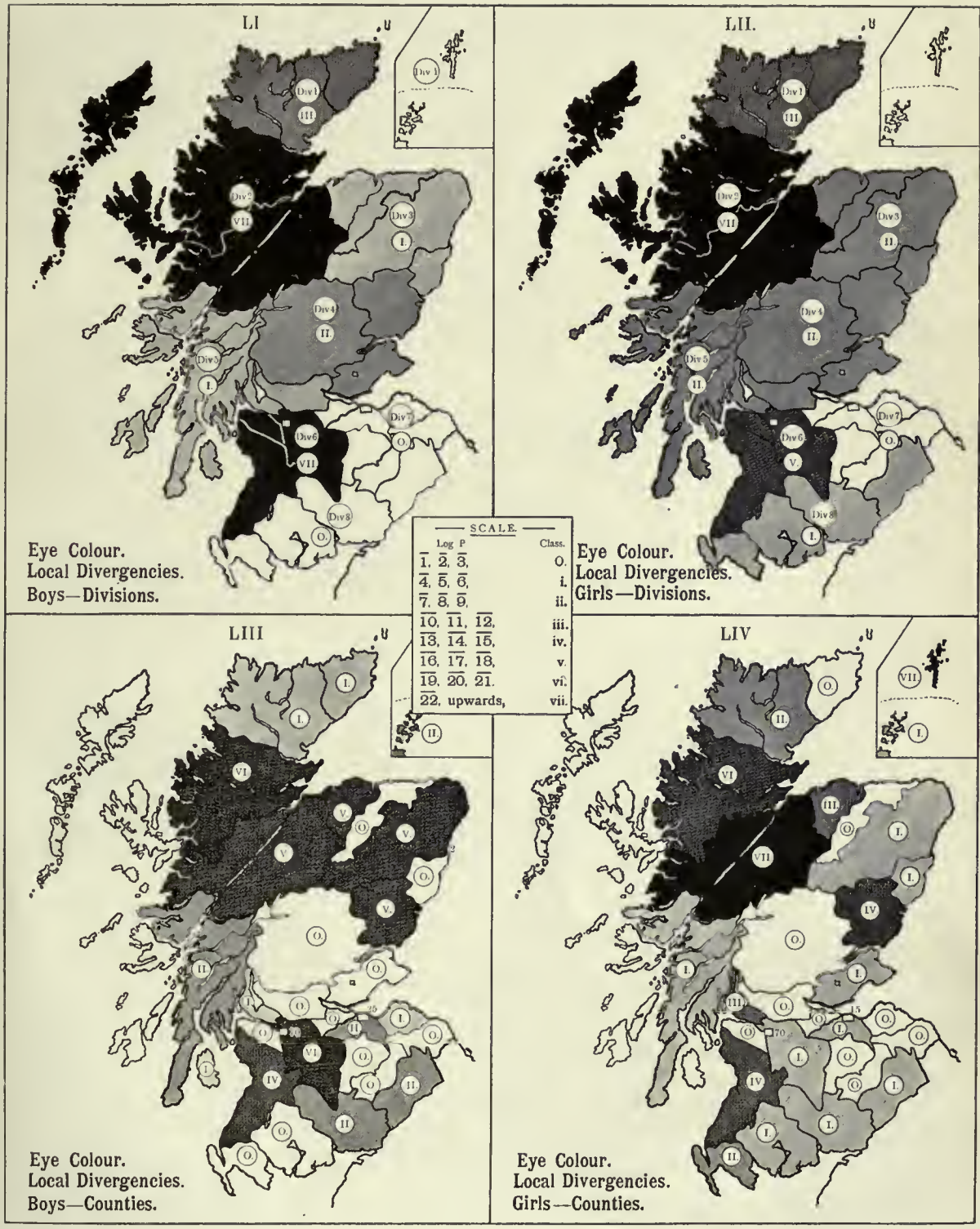
Log P	Class
1 2 3	0
4 5 6	I
7 8 9	II
10 11 12	III
13 14 15	IV
16 17 18	V
19 20 21	VI
22 upwards	VII

XLVIII.

Hair Colour
Local Divergencies
Girls—Districts

L.

Eye Colour
Local Divergencies
Girls—Districts


LI
Div1
III
Div2
VII
Div3
I.
Div4
II.
Div5
II
Div6
VII
Div7
O.
Div8
O.
Eye Colour.
Local Divergencies.
Boys—Divisions.
LII.
Div1
III
Div5
VII
Div3
II.
Div4
II
Div5
II
Div6
V.
Div7
O.
Div8
I.
Eye Colour.
Local Divergencies.
Girls—Divisions.
SCALE.
Log P
Class.
1, 2, 3, O.
4, 5, 6, i.
7, 8, 9, ii.
10, 11, 12, iii.
13, 14, 15, iv.
16, 17, 18, v.
19, 20, 21, vi.
22, upwards, vii.
LIII
Eye Colour.
Local Divergencies.
Boys—Counties.
LIV
Eye Colour.
Local Divergencies.
Girls—Counties.

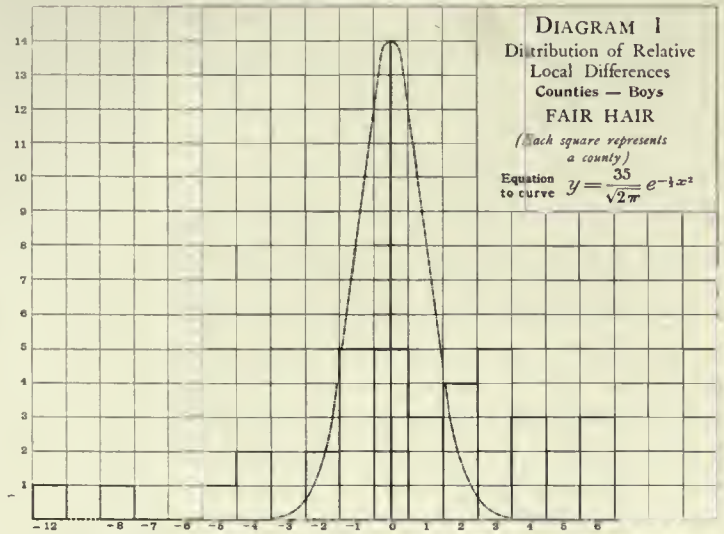


DIAGRAM I
Distribution of Relative Local Differences
Counties — Boys
FAIR HAIR
(Each square represents a county)
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

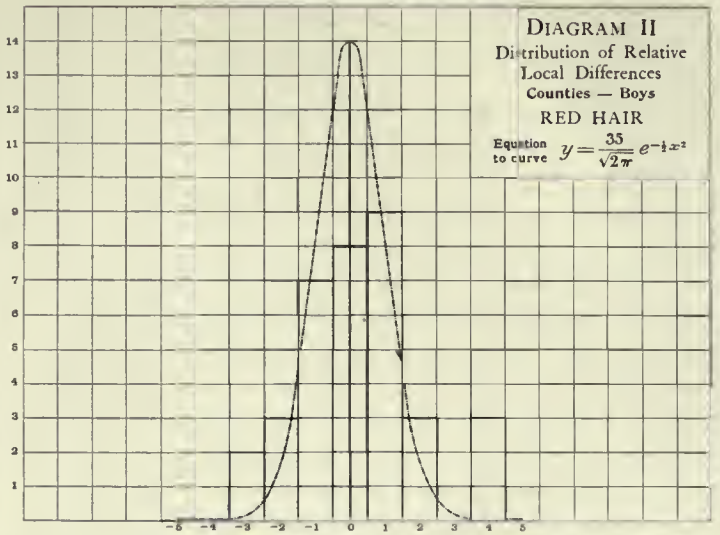


DIAGRAM II
Distribution of Relative Local Differences
Counties — Boys
RED HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

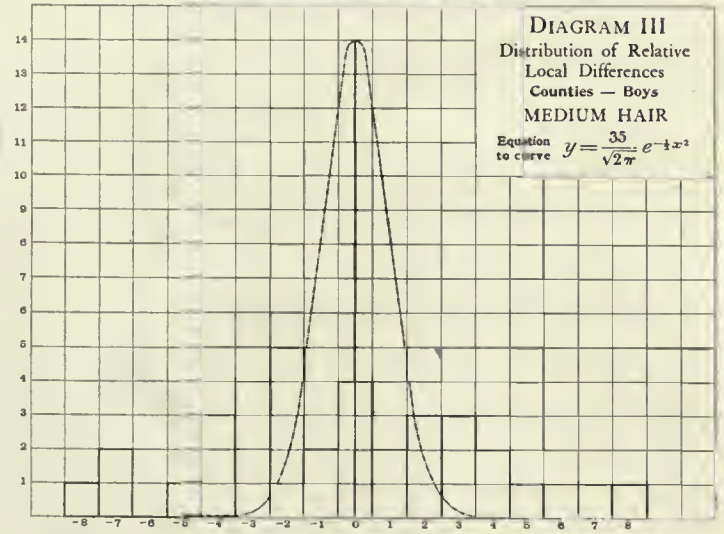


DIAGRAM III
Distribution of Relative Local Differences
Counties — Boys
MEDIUM HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

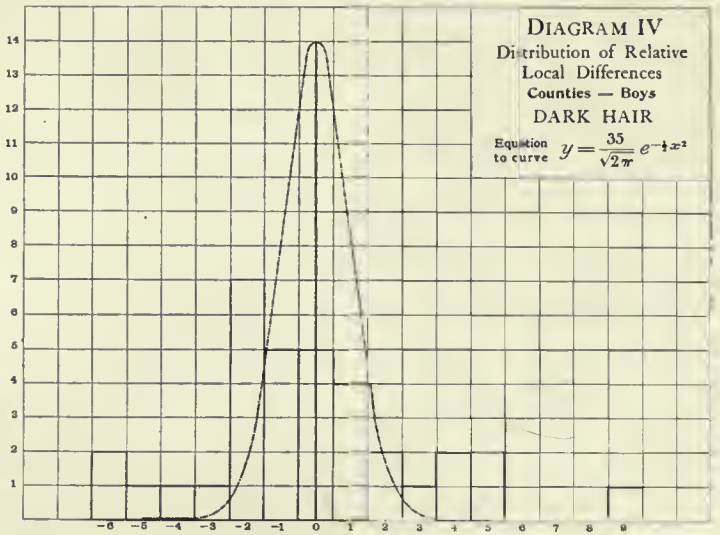


DIAGRAM IV
Distribution of Relative Local Differences
Counties — Boys
DARK HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

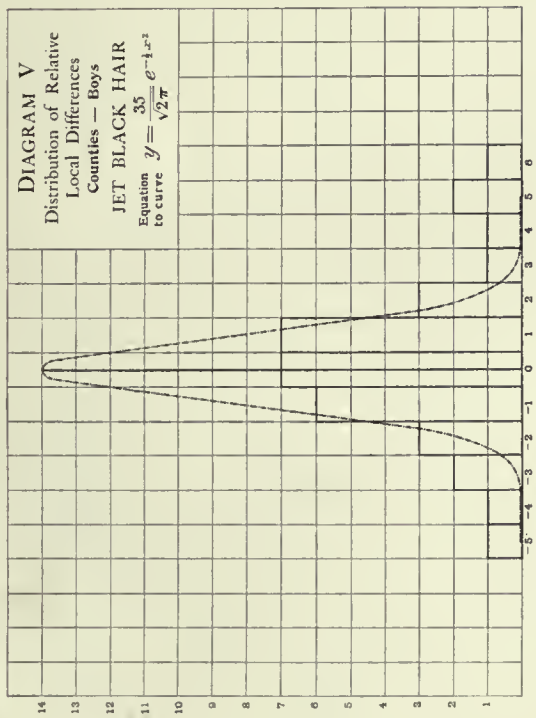


DIAGRAM V
Distribution of Relative Local Differences
Counties — Boys
JET BLACK HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

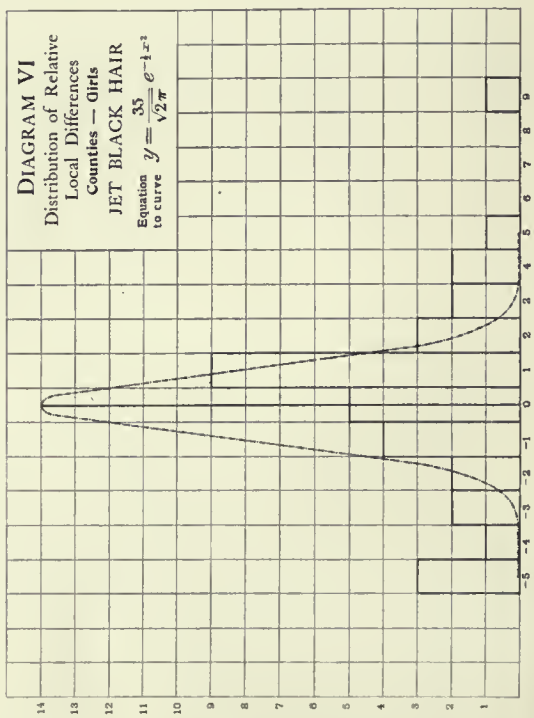


DIAGRAM VI
Distribution of Relative Local Differences
Counties — Girls
JET BLACK HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

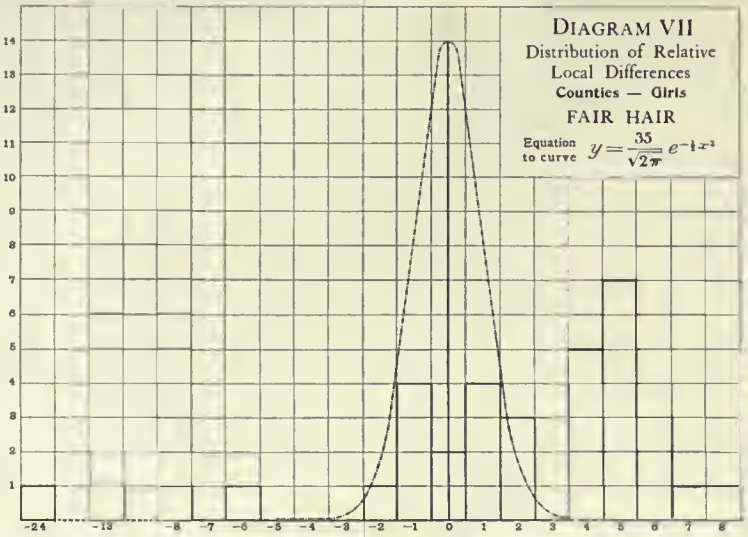


DIAGRAM VII
Distribution of Relative Local Differences
Counties — Girls
FAIR HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

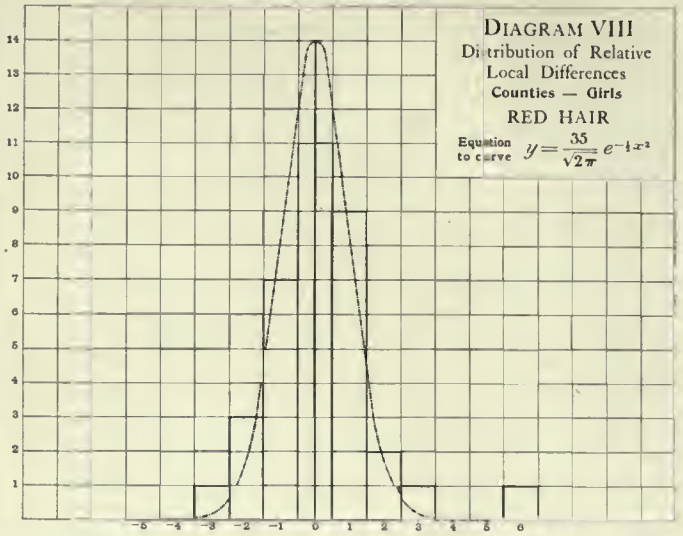


DIAGRAM VIII
Distribution of Relative Local Differences
Counties — Girls
RED HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

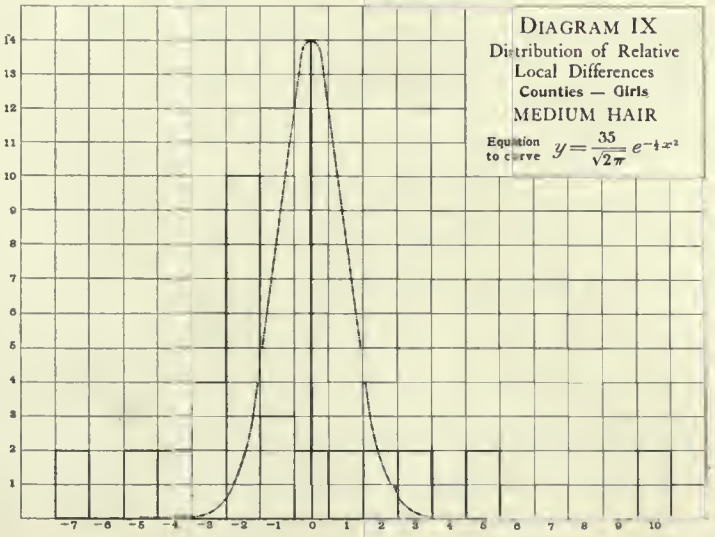


DIAGRAM IX
Distribution of Relative Local Differences
Counties — Girls
MEDIUM HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

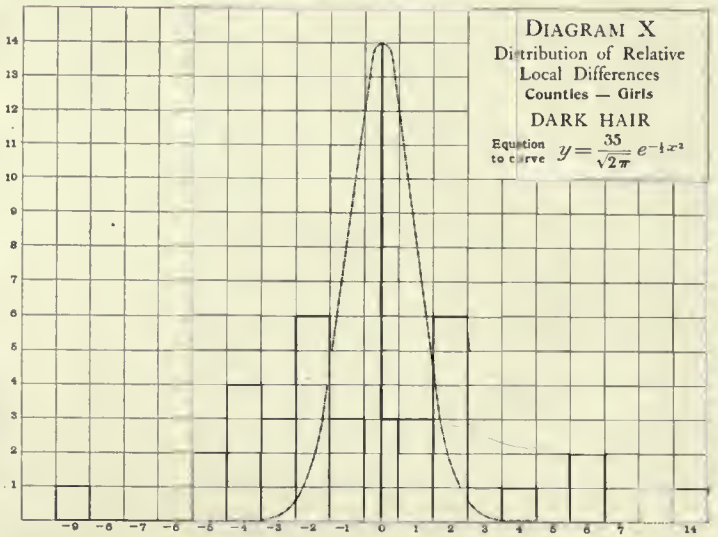


DIAGRAM X
Distribution of Relative Local Differences
Counties — Girls
DARK HAIR
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

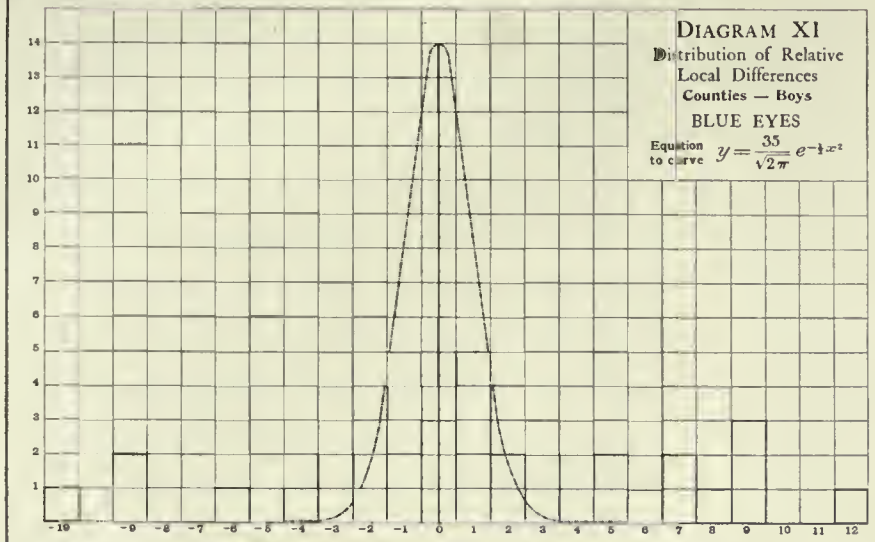


DIAGRAM XI
Distribution of Relative Local Differences
Counties — Boys
BLUE EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

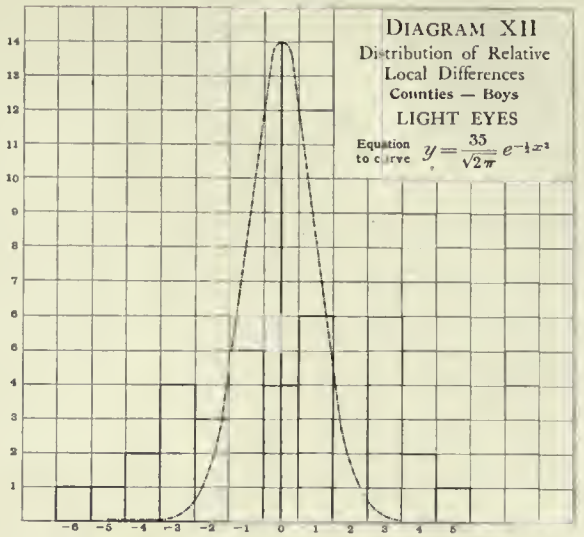


DIAGRAM XII
Distribution of Relative Local Differences
Counties — Boys
LIGHT EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

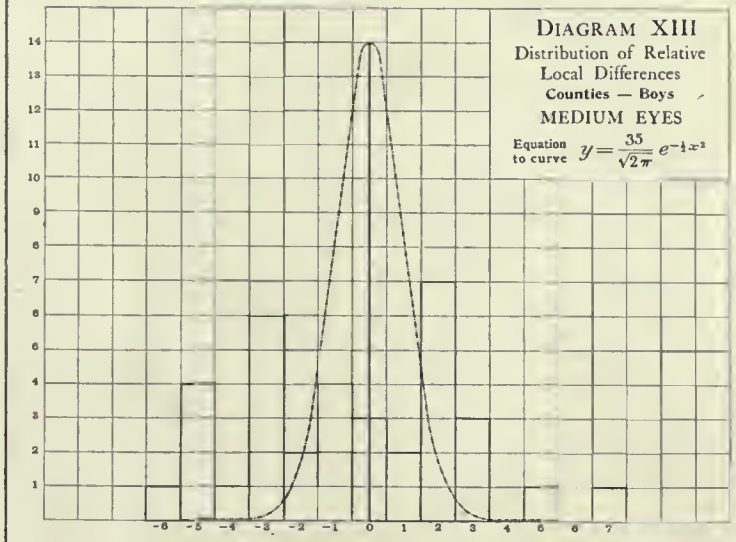


DIAGRAM XIII
Distribution of Relative Local Differences
Counties — Boys
MEDIUM EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

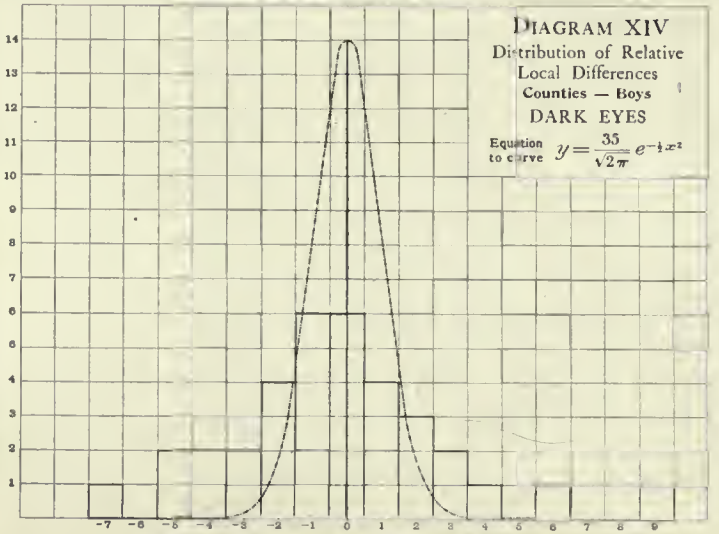


DIAGRAM XIV
Distribution of Relative Local Differences
Counties — Boys
DARK EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

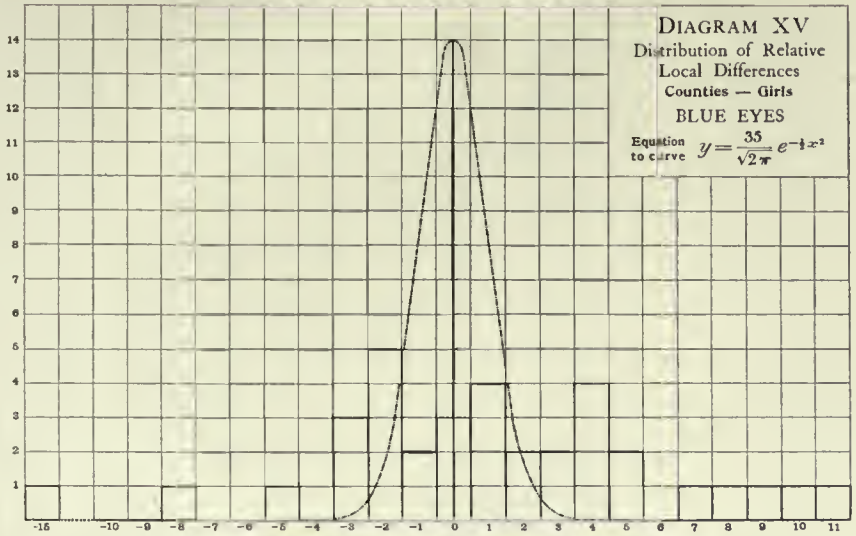


DIAGRAM XV
Distribution of Relative Local Differences
Counties — Girls
BLUE EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

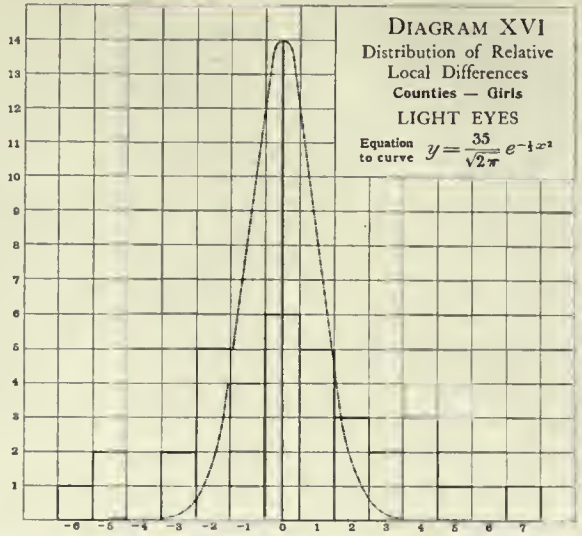


DIAGRAM XVI
Distribution of Relative Local Differences
Counties — Girls
LIGHT EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

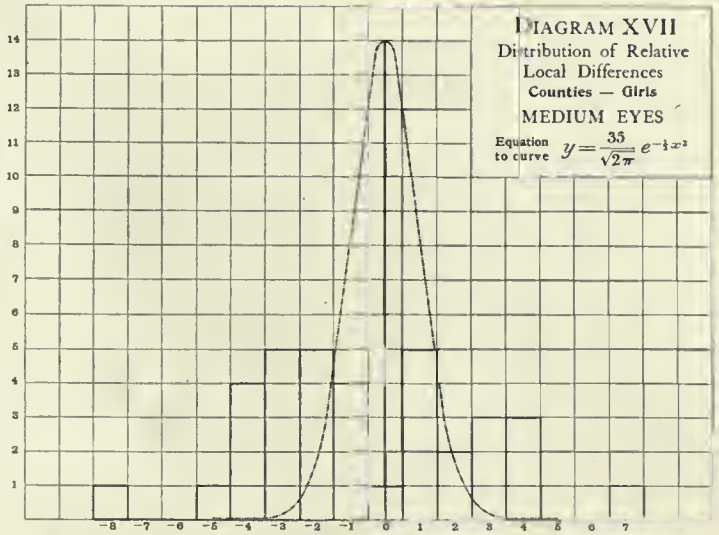


DIAGRAM XVII
Distribution of Relative Local Differences
Counties — Girls
MEDIUM EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

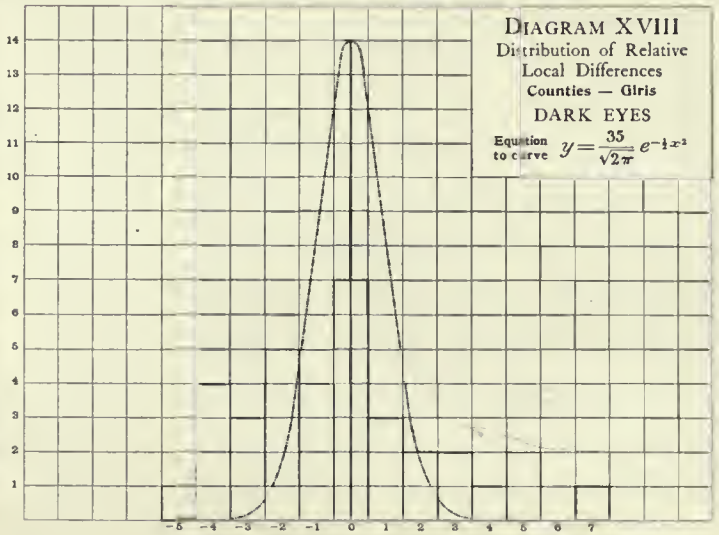


DIAGRAM XVIII
Distribution of Relative Local Differences
Counties — Girls
DARK EYES
Equation to curve $y = \frac{35}{\sqrt{2\pi}} e^{-\frac{1}{2}x^2}$

MAP LV.

Greater Glasgow and Environs. Boys—Divergency in Hair Colour.

MAP LVI.

Greater Glasgow and Environs. Girls—Divergency in Hair Colour.

SCALE.

Log P.	Class
$\overline{1}$, $\overline{2}$, $\overline{3}$,	0.
$\overline{4}$, $\overline{5}$, $\overline{6}$,	i.
$\overline{7}$, $\overline{8}$, $\overline{9}$,	ii.
$\overline{10}$, $\overline{11}$, $\overline{12}$,	iii.
$\overline{13}$, $\overline{14}$, $\overline{15}$,	iv.
$\overline{16}$, $\overline{17}$, $\overline{18}$,	v
$\overline{19}$, $\overline{20}$, $\overline{21}$	vi.
$\overline{22}$, upwards,	vii.

MAP LVII.

Greater Glasgow and Environs. Boys—Divergency in Eye Colour.

MAP LVIII.

Greater Glasgow and Environs. Girls—Divergency in Eye Colour.

MAP LIX.
Greater Glasgow and Environs. Boys — Fair Hair

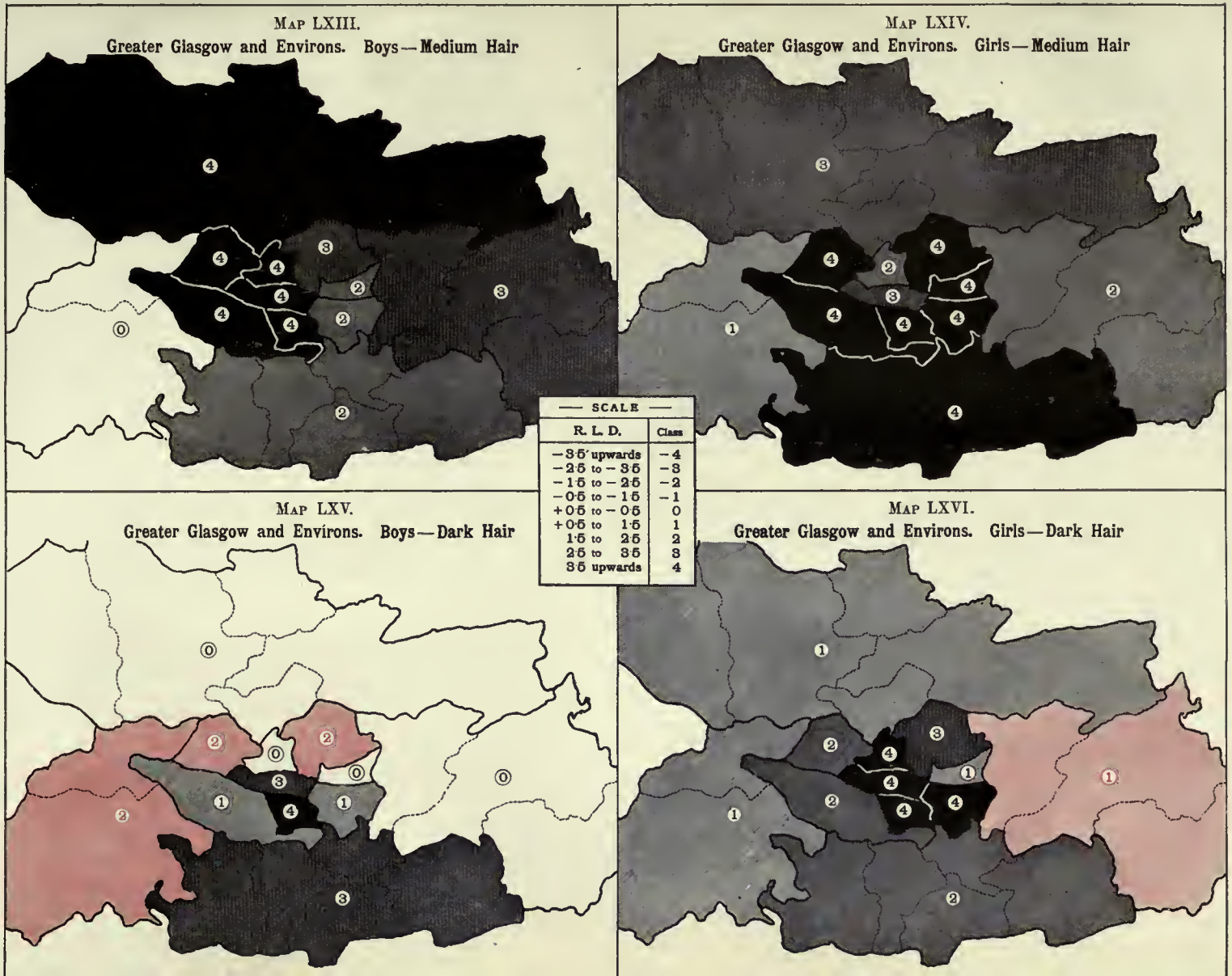
MAP LX.
Greater Glasgow and Environs. Girls — Fair Hair

— SCALE —

R. L. D.	Class
−3·5 upwards	−4
−2·5 to −3·5	−3
−1·5 to −2·5	−2
−0·5 to −1·5	−1
+0·5 to −0·5	0
+0·5 to 1·5	1
1·5 to 2·5	2
2·5 to 3·5	3
3·5 upwards	4

MAP LXI.
Greater Glasgow and Environs. Boys — Red Hair

MAP LXII.
Greater Glasgow and Environs. Girls — Red Hair


Map LXIII.
Greater Glasgow and Environs. Boys—Medium Hair
Map LXIV.
Greater Glasgow and Environs. Girls—Medium Hair
Map LXV.
Greater Glasgow and Environs. Boys—Dark Hair
Map LXVI.
Greater Glasgow and Environs. Girls—Dark Hair
— SCALE —
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4

MAP LXVII.
Greater Glasgow and Environs. Boys—Jet Black Hair

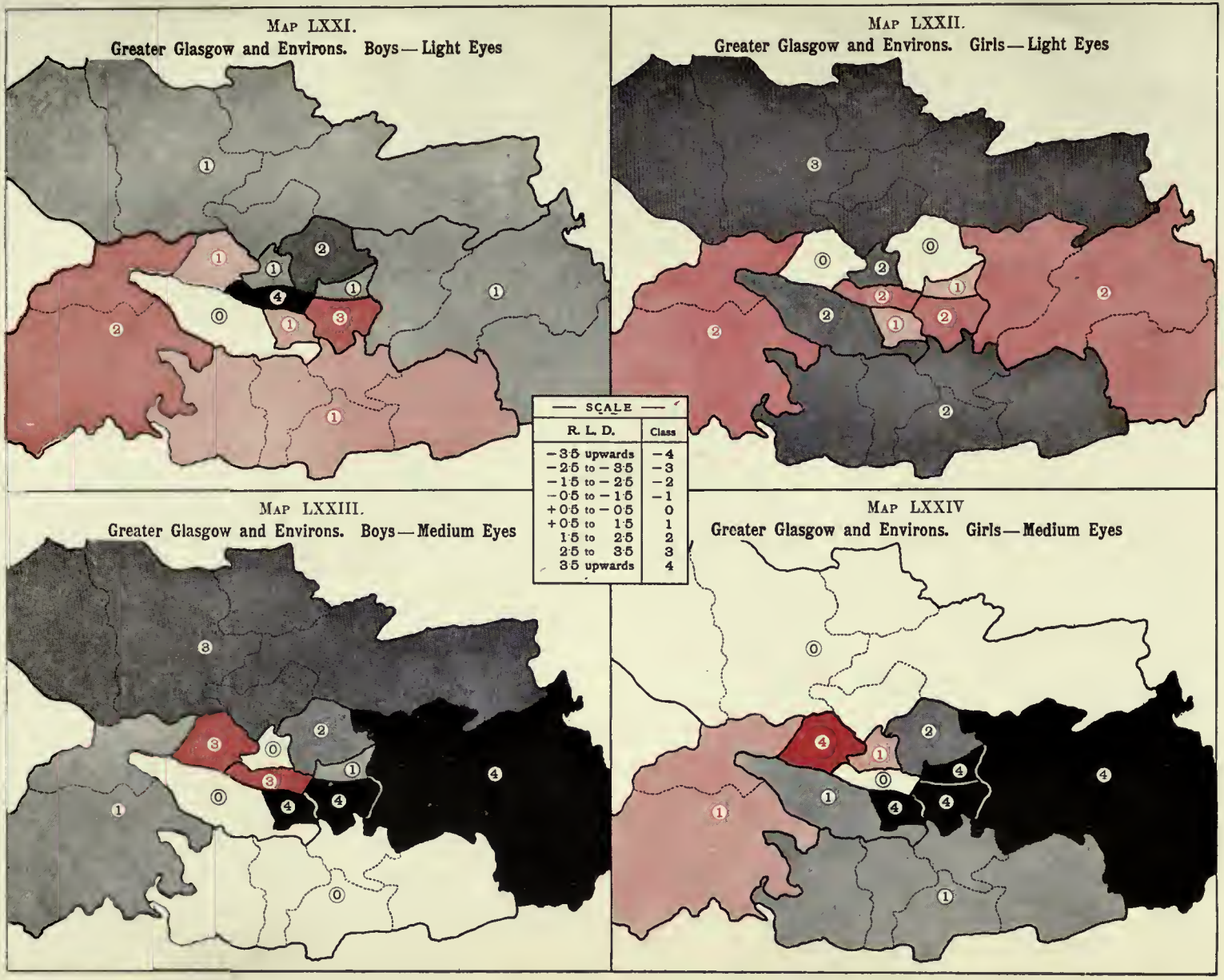
MAP LXVIII.
Greater Glasgow and Environs. Girls—Jet Black Hair

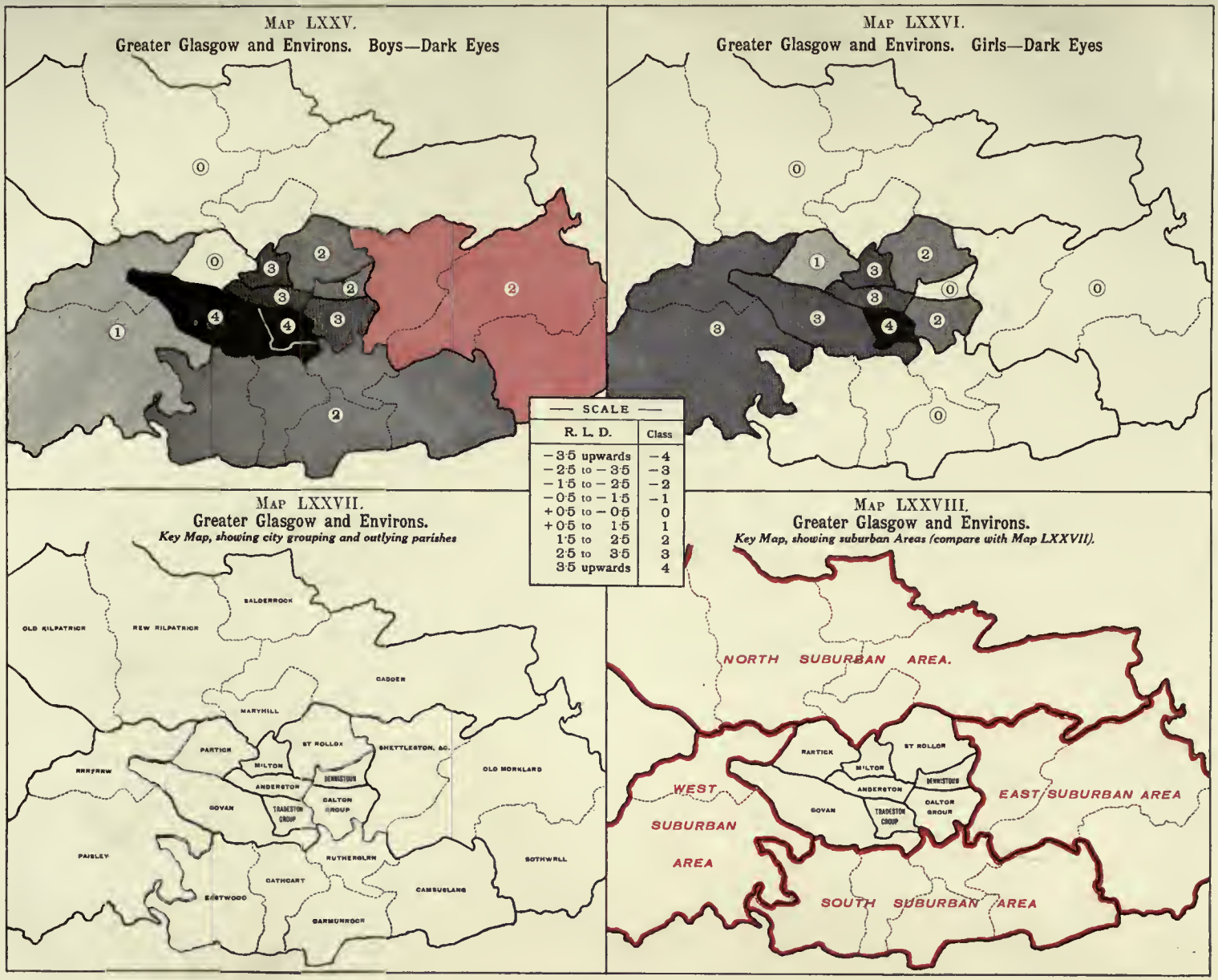
MAP LXIX.
Greater Glasgow and Environs. Boys—Blue Eyes

MAP LXX.
Greater Glasgow and Environs. Girls—Blue Eyes

SCALE

R. L. D.	Class
−3·5 upwards	−4
−2·5 to −3·5	−3
−1·5 to −2·5	−2
−0·5 to −1·5	−1
+0·5 to −0·5	0
+0·5 to 1·5	1
1·5 to 2·5	2
2·5 to 3·5	3
3·5 upwards	4


Map LXXI.
Greater Glasgow and Environs. Boys—Light Eyes
Map LXXII.
Greater Glasgow and Environs. Girls—Light Eyes
Map LXXIII.
Greater Glasgow and Environs. Boys—Medium Eyes
Map LXXIV
Greater Glasgow and Environs. Girls—Medium Eyes
SCALE
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4


MAP LXXV.
Greater Glasgow and Environs. Boys—Dark Eyes
MAP LXXVI.
Greater Glasgow and Environs. Girls—Dark Eyes
— SCALE —
R. L. D. | Class
−3·5 upwards | −4
−2·5 to −3·5 | −3
−1·5 to −2·5 | −2
−0·5 to −1·5 | −1
+0·5 to −0·5 | 0
+0·5 to 1·5 | 1
1·5 to 2·5 | 2
2·5 to 3·5 | 3
3·5 upwards | 4
MAP LXXVII.
Greater Glasgow and Environs.
Key Map, showing city grouping and outlying parishes
BALDERROCK
OLD KILPATRICK
NEW KILPATRICK
CADDER
MARYHILL
PARTICK
ST ROLLOX
SHETTLESTON, &C.
MILTON
BENHISTOUN
ANDERSTON
GOVAN
TRADESTON GROUP
DALTON GROUP
OLD MONKLAND
RUTHERGLEN
PAISLEY
CATHCART
EASTWOOD
CAMBUSLANG
SOTHWELL
CARMUNNOCK
MAP LXXVIII.
Greater Glasgow and Environs.
Key Map, showing suburban Areas (compare with Map LXXVII).
NORTH SUBURBAN AREA.
WEST SUBURBAN AREA
EAST SUBURBAN AREA
SOUTH SUBURBAN AREA
PARTICK
ST ROLLOX
MILTON
BENHISTOUN
ANDERSTON
GOVAN
TRADESTON GROUP
DALTON GROUP

PIGMENTATION SURVEY OF SCHOOL CHILDREN IN SCOTLAND.

By J. F. TOCHER.

This Appendix to the Report giving the absolute numbers for all the divisions, counties and districts of Scotland is issued as a Supplement to Biometrika, Vol. VI.

The cost of printing has been defrayed from a special fund presented to this Journal in memory of W. F. R. Weldon.

CONTENTS.

		PAGE			PAGE
I.	Grand Summary. Boys and Girls, Divisions	109	VII.	Percentages, Boys, Counties	114
II.	Percentages, Boys and Girls, Divisions	110	VIII.	„ Girls, „	115
III.	Grand Summary, Boys, Divisions		IX.	„ Chief Cities	116
	„ „ Girls, „	110	X.	Values of Δ	116 & 117
IV.	Percentages of the Classes, Boys and Girls, Divisions	111	XI.	District Summaries, Boys	118—119
V.	Grand Summary, Boys, Counties	112	XII.	„ „ Girls	120—121
VI.	„ „ Girls, „	113	XIII.	„ Percentages, Boys	122—123
			XIV.	„ „ Girls	124 & 125
			XV.	County and Parish Data	126—152
			XVI.	Observers and Schools	153—175

APPENDIX.

TABLE I.

Grand Summary. Boys and Girls. Divisions.

Division	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
1	4062	781	5552	3610	238	2508	4030	4496	3209	14243
2	5214	949	6891	5139	401	3656	5592	5460	3886	18594
3	19453	4219	29396	17479	800	11039	21331	23483	15492	71345
4	20092	3822	31672	18701	954	11470	21794	24397	17580	75241
5	10429	1947	16417	10692	581	5788	12909	12695	8674	40066
6	47607	10083	83969	49732	2285	26365	58941	63868	44502	193676
7	17088	3425	26823	14735	622	9278	19303	20070	14042	62693
8	7403	1371	10722	6498	303	4031	8308	8222	5736	26297
Totals	131348	26597	211442	126584	6184	74135	152208	162691	113121	502155

TABLE II.

Percentages. . Boys and Girls. Divisions.

Division	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
1	28·52	5·48	38·98	25·35	1·67	17·61	28·29	31·57	22·53
2	28·04	5·10	37·06	27·64	2·16	19·66	30·08	29·36	20·90
3	27·27	5·91	41·20	24·50	1·12	15·47	29·90	32·91	21·72
4	26·70	5·08	42·09	24·86	1·27	15·24	28·97	32·43	23·36
5	26·03	4·86	40·97	26·69	1·45	14·45	32·22	31·68	21·65
6	24·58	5·21	43·36	25·68	1·17	13·61	30·43	32·98	22·98
7	27·26	5·46	42·79	23·50	·99	14·80	30·79	32·01	22·40
8	28·15	5·22	40·77	24·71	1·15	15·33	31·59	31·27	21·81

TABLE III.

Grand Summary. Divisions.

BOYS

Division	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
I	1963	452	2994	1994	133	1304	2100	2467	1665	7536
II	2568	513	3666	2630	190	1841	2902	2875	1949	9567
III	9278	2251	15586	9015	403	5587	10946	12132	7868	36533
IV	9762	2003	16911	9551	506	5956	11255	12631	8891	38733
V	5128	1043	8635	5577	306	2971	6618	6657	4443	20689
VI	23891	5361	43944	24979	1216	13314	30348	33075	22654	99391
VII	8179	1803	14054	7374	322	4724	9737	10169	7102	31732
VIII	3543	736	5779	3391	136	2091	4234	4328	2932	13585
Totals	64312	14162	111569	64511	3212	37788	78140	84334	57504	257766

GIRLS

Division	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
I	2099	329	2558	1616	105	1204	1930	2029	1544	6707
II	2646	436	3225	2509	211	1815	2690	2585	1937	9027
III	10175	1968	13810	8462	397	5452	10385	11351	7624	34812
IV	10330	1819	14761	9150	448	5514	10539	11766	8689	36508
V	5301	904	7782	5115	275	2817	6291	6038	4231	19377
VI	23716	4722	40025	24753	1069	13051	28593	30793	21848	94285
VII	8909	1622	12769	7361	300	4554	9566	9901	6940	30961
VIII	3860	635	4943	3107	167	1940	4074	3894	2804	12712
Totals	67036	12435	99873	62073	2972	36347	74068	78357	55617	244389

TABLE IV.

Percentages of the Classes for each of the Divisions.

BOYS

Division	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
1	26·05	6·00	39·73	26·46	1·76	17·30	27·87	32·74	22·09
2	26·84	5·36	38·32	27·49	1·99	19·24	30·34	30·05	20·37
3	25·40	6·16	42·66	24·68	1·10	15·29	29·96	33·21	21·54
4	25·20	5·17	43·66	24·66	1·31	15·38	29·06	32·61	22·95
5	24·78	5·04	41·74	26·96	1·48	14·36	31·99	32·18	21·47
6	24·04	5·40	44·21	25·13	1·22	13·40	30·53	33·28	22·79
7	25·77	5·68	44·29	23·24	1·02	14·89	30·68	32·05	22·38
8	26·08	5·42	42·54	24·96	1·00	15·39	31·17	31·86	21·58
General Population	24·95	5·49	43·28	25·03	1·25	14·66	30·31	32·72	22·31

GIRLS

Division	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
1	31·30	4·90	38·14	24·09	1·57	17·95	28·78	30·25	23·02
2	29·31	4·83	35·73	27·79	2·34	20·10	29·80	28·64	21·46
3	29·23	5·65	39·67	24·31	1·14	15·66	29·83	32·61	21·90
4	28·30	4·98	40·43	25·06	1·23	15·10	28·87	32·23	23·80
5	27·36	4·67	40·16	26·39	1·42	14·54	32·47	31·16	21·83
6	25·16	5·01	42·45	26·25	1·13	13·84	30·33	32·66	23·17
7	28·77	5·24	41·24	23·78	·97	14·71	30·99	31·98	22·41
8	30·37	5·00	38·88	24·44	1·31	15·26	32·05	30·63	22·06
General Population	27·43	5·09	40·87	25·40	1·22	14·87	30·31	32·06	22·76

TABLE V.

Grand Summary. Counties.

BOYS

County	No.	Hair					Eyes				Totals
		Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Aberdeen ...	*1*	6426	1600	11189	6382	283	3844	7848	8682	5506	25880
Argyll ...	*2*	1202	257	1866	1513	77	709	1658	1573	975	4915
Ayr ...	*3*	4476	893	6977	4116	203	2748	5238	5125	3554	16665
Banff ...	*4*	1250	325	2047	1147	55	734	1335	1626	1129	4824
Berwick ...	*5*	462	72	554	362	22	238	500	435	299	1472
Bute ...	*6*	233	71	567	312	25	124	407	412	265	1208
Caithness ...	*7*	711	160	1141	744	68	361	805	976	691	2833
Clackmannan ...	*8*	493	87	844	469	6	245	627	639	388	1899
Dumbarton ...	*9*	1408	250	2188	1338	77	739	1736	1615	1171	5261
Dumfries ...	*10*	1503	262	2502	1336	43	745	1826	1941	1134	5646
Edinburgh ...	*11*	5387	1169	9217	5025	186	3044	6416	6642	4882	20984
Elgin ...	*12*	819	160	1068	650	35	573	722	836	601	2732
Fife ...	*13*	3085	618	5340	2946	156	1768	3541	4112	2724	12145
Forfar ...	*14*	3887	878	7173	3966	194	2594	4493	5177	3834	16098
Haddington ...	*15*	497	123	912	466	31	380	589	641	419	2029
Inverness ...	*16*	1293	257	1889	1389	93	938	1474	1454	1055	4921
Kincardine ...	*17*	647	141	1050	739	26	360	870	822	551	2603
Kinross ...	*18*	125	26	268	118	5	66	168	197	111	542
Kirkcudbright ...	*19*	712	176	1263	865	30	484	956	923	683	3046
Lanark ...	*20*	16455	3788	31329	17736	837	8686	21428	23751	16280	70145
Linlithgow ...	*21*	1299	311	2278	1094	58	718	1625	1664	1033	5040
Nairn ...	*22*	136	25	232	97	4	76	171	166	81	494
Orkney ...	*23*	565	101	819	496	27	353	615	691	349	2008
Peebles ...	*24*	214	60	502	198	11	121	330	326	208	985
Perth ...	*25*	2172	394	3286	2052	145	1283	2426	2506	1834	8049
Renfrew ...	*26*	2960	680	5638	3127	176	1880	3682	4199	2820	12581
Ross & Cromarty	*27*	1275	256	1777	1241	97	903	1428	1421	894	4646
Roxburgh ...	*28*	794	168	1155	639	32	492	863	782	650	2788
Selkirk ...	*29*	320	68	591	229	14	223	277	461	261	1222
Shetland ...	*30*	371	91	540	346	21	354	329	382	304	1369
Stirling ...	*31*	2285	465	4014	2414	127	1399	2817	3057	2032	9305
Sutherland ...	*32*	316	91	494	408	17	236	351	418	321	1326
Wigtown ...	*33*	524	130	859	551	31	369	589	682	465	2105
Totals ...	—	64312	14162	111569	64511	3212	37788	78140	84334	57504	257766

TABLE VI.

Grand Summary. Counties.

GIRLS

County	No.	Hair					Eyes				Totals
		Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Aberdeen ...	*1*	6890	1322	9762	5972	271	3677	7293	7963	5284	24217
Argyll ...	*2*	1222	229	1676	1324	86	688	1504	1418	927	4537
Ayr ...	*3*	4687	795	6483	3837	171	2708	4911	4960	3394	15973
Banff ...	*4*	1499	336	1944	1103	46	761	1398	1622	1147	4928
Berwick ...	*5*	450	66	477	303	12	211	442	387	268	1308
Bute ...	*6*	306	64	465	330	15	140	397	401	242	1180
Caithness ...	*7*	744	117	996	647	50	357	775	798	624	2554
Claekmannan ...	*8*	485	67	706	394	4	195	561	555	345	1656
Dumbarton ...	*9*	1422	214	1940	1326	69	679	1729	1470	1093	4971
Dumfries ...	*10*	1658	251	2085	1217	63	721	1702	1750	1101	5274
Edinburgh ...	*11*	5822	1084	8656	5033	212	2957	6398	6687	4765	20807
Elgin ...	*12*	836	134	991	634	41	505	691	841	599	2636
Fife ...	*13*	3518	547	4575	2850	98	1709	3317	3813	2749	11588
Forfar ...	*14*	3922	785	6313	3840	211	2315	4188	4834	3734	15071
Haddington ...	*15*	625	108	770	496	18	353	637	595	432	2017
Inverness ...	*16*	1283	215	1630	1330	119	936	1387	1216	1038	4577
Kincardine ...	*17*	797	146	929	640	36	413	866	752	517	2548
Kinross ...	*18*	159	26	223	113	5	65	172	179	110	526
Kirkeudbright ...	*19*	783	131	1063	722	36	390	940	815	590	2735
Lanark ...	*20*	16165	3353	28447	17729	729	8685	20150	21888	15700	66423
Linlithgow ...	*21*	1459	252	1916	1103	38	721	1498	1510	1039	4768
Nairn ...	*22*	153	30	184	113	3	96	137	173	77	483
Orkney ...	*23*	573	87	672	405	21	321	536	577	324	1758
Peebles ...	*24*	244	49	466	217	8	120	315	338	211	984
Perth ...	*25*	2246	394	2944	1953	130	1230	2301	2385	1751	7667
Renfrew ...	*26*	2864	574	5095	3187	169	1658	3532	3945	2754	11889
Ross & Cromarty	*27*	1363	221	1595	1179	92	879	1303	1369	899	4450
Roxburgh ...	*28*	800	147	984	587	35	423	790	723	617	2553
Selkirk ...	*29*	309	63	484	209	12	192	276	384	225	1077
Shetland ...	*30*	378	64	408	261	18	284	272	310	263	1129
Stirling ...	*31*	2351	397	3701	2135	105	1310	2661	2749	1969	8689
Sutherland ...	*32*	404	61	482	303	16	242	347	344	333	1266
Wigtown ...	*33*	619	106	811	581	33	406	642	606	496	2150
Totals ...	—	67036	12435	99873	62073	2972	36347	74068	78357	55617	244389

TABLE VII.

Colour Percentages. Counties.

BOYS

County	No.	Hair					Eyes			
		Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
Aberdeen ...	*1*	24·83	6·18	43·24	24·66	1·10	14·85	30·32	33·55	21·28
Argyll ...	*2*	24·46	5·23	37·96	30·78	1·57	14·43	33·73	32·00	19·84
Ayr ...	*3*	26·86	5·36	41·86	24·70	1·22	16·49	31·43	30·75	21·33
Banff ...	*4*	25·91	6·74	42·43	23·78	1·14	15·22	27·67	33·71	23·40
Berwick ...	*5*	31·39	4·89	37·64	24·59	1·49	16·17	33·97	29·55	20·31
Bute ...	*6*	19·29	5·88	46·94	25·82	2·07	10·27	33·69	34·10	21·94
Caithness ...	*7*	25·10	5·97	40·27	26·26	2·40	12·74	28·42	34·45	24·39
Clackmannan ...	*8*	25·96	4·58	44·44	24·70	·32	12·90	33·02	33·65	20·43
Dumbarton ...	*9*	26·76	4·75	41·59	25·43	1·47	14·05	33·00	30·70	22·25
Dumfries ...	*10*	26·62	4·64	44·32	23·66	·76	13·20	32·34	34·38	20·08
Edinburgh ...	*11*	25·68	5·57	43·92	23·95	·88	14·51	30·58	31·65	23·26
Elgin ...	*12*	29·98	5·86	39·09	23·79	1·28	20·97	26·43	30·60	22·00
Fife ...	*13*	25·40	5·09	43·97	24·26	1·28	14·56	29·15	33·86	22·43
Forfar ...	*14*	24·15	5·45	44·56	24·64	1·20	16·11	27·91	32·16	23·82
Haddington ...	*15*	24·49	6·06	44·95	22·97	1·53	18·73	29·03	31·59	20·65
Inverness ...	*16*	26·27	5·22	38·39	28·23	1·89	19·06	29·95	29·55	21·44
Kincardine ...	*17*	24·85	5·41	40·33	28·39	1·00	13·83	33·42	31·58	21·17
Kinross ...	*18*	23·06	4·80	49·45	21·77	·92	12·18	30·99	36·35	20·48
Kirkcudbright ...	*19*	23·38	5·78	41·46	28·40	·98	15·89	31·39	30·30	22·42
Lanark ...	*20*	23·46	5·40	44·66	25·29	1·19	12·38	30·55	33·86	23·21
Linlithgow ...	*21*	25·77	6·17	45·20	21·71	1·15	14·25	32·24	33·01	20·50
Nairn ...	*22*	27·53	5·06	46·96	19·64	·81	15·39	34·61	33·60	16·40
Orkney ...	*23*	28·14	5·03	40·79	24·70	1·34	17·58	30·63	34·41	17·38
Peebles ...	*24*	21·73	6·09	50·96	20·10	1·12	12·28	33·50	33·10	21·12
Perth ...	*25*	26·99	4·89	40·83	25·49	1·80	15·94	30·14	31·13	22·79
Renfrew ...	*26*	23·53	5·41	44·81	24·85	1·40	14·94	29·27	33·38	22·41
Ross & Cromarty	*27*	27·44	5·51	38·25	26·71	2·09	19·44	30·73	30·59	19·24
Roxburgh ...	*28*	28·48	6·02	41·43	22·92	1·15	17·68	30·96	28·05	23·31
Selkirk ...	*29*	26·19	5·56	48·36	18·74	1·15	18·25	22·67	37·72	21·36
Shetland ...	*30*	27·10	6·65	39·45	25·27	1·53	25·86	24·03	27·90	22·21
Stirling ...	*31*	24·56	5·00	43·14	25·94	1·36	15·03	30·28	32·85	21·84
Sutherland ...	*32*	23·83	6·86	37·26	30·77	1·28	17·80	26·47	31·52	24·21
Wigtown ...	*33*	25·37	6·17	40·81	26·18	1·47	17·53	27·98	32·40	22·09
Total Population	—	24·95	5·49	43·28	25·03	1·25	14·66	30·31	32·72	22·31

TABLE VIII.

Colour Percentages. Counties.

GIRLS

County	No.	Hair					Eyes			
		Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
Aberdeen ...	*1*	28·41	5·46	40·31	24·66	1·12	15·18	30·12	32·88	21·82
Argyll ...	*2*	26·93	5·05	36·94	29·18	1·90	15·16	33·15	31·26	20·43
Ayr ...	*3*	29·34	4·98	40·59	24·02	1·07	16·95	30·75	31·05	21·25
Banff ...	*4*	30·42	6·82	39·45	22·38	·93	15·44	28·37	32·01	23·28
Berwick ...	*5*	34·40	5·05	36·47	23·16	·92	16·13	33·79	29·59	20·49
Bute ...	*6*	25·93	5·42	39·41	27·97	1·27	11·87	33·64	33·98	20·51
Caithness ...	*7*	29·13	4·58	39·00	25·33	1·96	13·98	30·35	31·24	24·43
Clackmannan ...	*8*	29·29	4·05	42·63	23·79	·24	11·78	33·88	33·51	20·83
Dumbarton ...	*9*	28·61	4·30	39·03	26·67	1·39	13·66	34·78	29·57	21·99
Dumfries ...	*10*	31·44	4·76	39·53	23·08	1·19	13·67	32·27	33·18	20·88
Edinburgh ...	*11*	27·98	5·21	41·60	24·19	1·02	14·21	30·75	32·14	22·90
Elgin ...	*12*	31·72	5·08	37·59	24·05	1·56	19·16	26·21	31·90	22·73
Fife ...	*13*	30·36	4·72	39·48	24·59	·85	14·75	28·62	32·91	23·72
Forfar ...	*14*	26·02	5·21	41·89	25·48	1·40	15·36	27·79	32·07	24·78
Haddington ...	*15*	30·99	5·35	38·18	24·59	·89	17·50	31·58	29·50	21·42
Inverness ...	*16*	28·03	4·70	35·61	29·06	2·60	20·45	30·30	26·57	22·68
Kincardine ...	*17*	31·28	5·73	36·46	25·12	1·41	16·21	33·99	29·51	20·29
Kinross ...	*18*	30·23	4·94	42·40	21·48	·95	12·36	32·70	34·03	20·91
Kirkcudbright ...	*19*	28·63	4·79	38·87	26·40	1·31	14·26	34·37	29·80	21·57
Lanark ...	*20*	24·33	5·05	42·83	26·69	1·10	13·07	30·34	32·95	23·64
Linlithgow ...	*21*	30·60	5·29	40·18	23·13	·80	15·12	31·42	31·67	21·79
Nairn ...	*22*	31·67	6·21	38·10	23·40	·62	19·88	28·36	35·82	15·94
Orkney ...	*23*	32·59	4·95	38·23	23·04	1·19	18·26	30·49	32·82	18·43
Peebles ...	*24*	24·80	4·98	47·36	22·05	·81	12·20	32·01	34·35	21·44
Perth ...	*25*	29·29	5·14	38·40	25·47	1·70	16·04	30·01	31·11	22·84
Renfrew ...	*26*	24·09	4·83	42·85	26·81	1·42	13·95	29·71	33·18	23·16
Ross & Cromarty	*27*	30·63	4·97	35·84	26·49	2·07	19·75	29·28	30·77	20·20
Roxburgh ...	*28*	31·34	5·76	38·54	22·99	1·37	16·57	30·94	28·32	24·17
Selkirk ...	*29*	28·69	5·85	44·94	19·41	1·11	17·83	25·63	35·65	20·89
Shetland ...	*30*	33·48	5·67	36·14	23·12	1·59	25·16	24·09	27·46	23·29
Stirling ...	*31*	27·06	4·57	42·59	24·57	1·21	15·08	30·62	31·64	22·66
Sutherland ...	*32*	31·91	4·82	38·07	23·94	1·26	19·12	27·41	27·17	26·30
Wigtown ...	*33*	28·79	4·93	37·72	27·02	1·54	18·88	29·86	28·19	23·07
Total Population	—	27·43	5·09	40·87	25·40	1·22	14·87	30·31	32·06	22·76

TABLE IX.

Colour Percentages. Chief Cities.

BOYS

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
Aberdeen City ...	24·54	6·22	43·31	25·19	·74	12·79	30·92	33·44	22·85
„ County	25·06	6·15	43·17	25·23	1·39	16·56	29·83	33·63	19·98
Edinburgh City ...	26·31	5·39	42·98	24·32	1·00	15·11	29·81	30·47	24·61
Leith ...	23·57	5·92	45·42	24·36	·73	10·55	32·60	34·16	22·69
Edinburgh County	26·76	5·53	44·05	22·81	·85	17·66	29·79	31·11	21·44
Dundee ...	23·22	5·41	45·38	24·58	1·41	14·54	27·44	33·86	24·16
Forfar ...	25·22	5·50	43·61	24·70	·97	17·94	28·46	30·18	23·42
Glasgow ...	22·13	5·35	45·26	26·10	1·16	11·09	30·57	33·98	24·36
Govan ...	21·50	5·30	47·15	24·79	1·26	14·63	30·18	31·61	23·58
Lanark County ...	25·32	5·48	43·35	24·64	1·21	12·96	30·64	34·41	21·99

GIRLS

	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
Aberdeen City ...	27·29	5·58	40·82	25·62	·69	13·93	29·78	33·68	22·61
„ County	29·36	5·36	39·91	23·91	1·46	16·16	30·38	32·26	21·20
Edinburgh City ...	26·61	4·98	41·14	25·84	1·43	14·75	29·85	30·75	24·65
Leith ...	27·53	4·97	41·99	24·89	·62	11·04	32·88	34·53	21·55
Edinburgh County	31·01	5·91	42·03	20·34	·71	16·74	30·06	32·06	21·14
Dundee ...	24·57	5·06	42·56	26·37	1·44	14·04	27·18	34·32	24·46
Forfar ...	27·81	5·39	41·07	24·38	1·35	16·99	28·54	29·31	25·16
Glasgow ...	21·44	4·85	43·56	28·85	1·30	11·98	29·76	33·78	24·48
Govan ...	21·62	5·11	45·75	26·41	1·11	14·10	30·97	30·92	24·01
Lanark County ...	28·03	5·22	41·20	24·65	·90	13·84	30·71	32·76	22·69

TABLE X.

Values of Δ *or* $(y_s'' - y_s')/\sqrt{npq}$. *Counties.*

$$\Delta \Big/ \sqrt{1 - \left(\frac{n-1}{N-1}\right)} = (RLD) = \textit{Relative Local Difference.}$$

On comparing this table with Tables VIII. and IX. of memoir, it will be seen how far the values of Δ diverge from those of (RLD). In many cases they are fair approximations, but where n is moderately large the Δ's diverge widely from the real relative local difference or (RLD). The signs (not shown in this table) are the same as Tables VIII. and IX. of memoir.

TABLE X.

	BOYS									GIRLS								
	HAIR					EYES				HAIR					EYES			
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark
Aberdeen County	·32	3·45	·26	2·21	1·48	6·38	1·23	2·32	6·67	5·04	1·44	2·27	3·99	2·64	4·24	·17	·50	4·34
„ City ...	1·01	3·47	·07	·39	5·00	5·73	1·44	1·67	1·42	·32	2·32	·11	·52	4·94	2·72	1·18	3·57	·37
Argyll ...	·80	·80	7·52	9·31	2·00	·47	5·22	1·07	4·16	·75	·13	5·38	5·86	4·23	·56	4·16	1·16	3·74
Ayr ...	5·69	·74	3·68	·99	·37	6·68	3·15	5·41	3·05	5·42	·65	·73	4·00	1·61	7·40	1·20	2·73	4·56
Banff ...	1·54	3·80	1·19	2·01	·69	1·09	3·98	1·46	1·82	4·70	5·52	2·03	4·87	1·77	1·13	2·97	1·28	·86
Berwick ...	5·71	1·01	4·37	·39	·85	1·64	3·05	2·59	1·84	5·65	·07	3·24	1·86	·97	1·28	2·74	1·92	1·96
Bute ...	4·55	·59	2·57	·64	2·57	4·32	2·56	1·03	·31	1·15	·52	1·02	2·03	·19	2·90	2·49	1·42	1·85
Caithness ...	·18	1·11	3·23	1·51	5·51	2·89	2·20	1·96	2·66	1·93	1·17	1·92	·08	3·45	1·27	·04	·88	2·02
Dumbarton ...	3·04	2·35	2·48	·67	1·39	1·26	4·24	3·13	·09	1·86	2·52	2·64	2·07	1·15	2·40	6·86	3·76	1·30
Dumfries ...	2·90	2·80	1·57	2·37	3·30	3·11	3·32	2·66	4·02	6·52	1·09	1·97	3·88	·10	2·45	3·10	1·75	3·26
Edinburgh County	3·06	·12	1·13	3·75	2·60	6·22	·83	2·51	1·54	5·82	2·70	1·71	8·43	3·34	3·80	·39	·01	2·80
„ City ...	3·13	·45	·60	1·62	2·25	1·27	1·08	4·75	5·46	1·81	·50	·54	1·01	1·96	·34	·99	2·77	4·46
Leith ...	2·43	1·45	3·28	1·17	3·60	8·84	3·80	2·33	·69	·18	·43	1·74	·90	4·12	8·22	4·27	4·04	2·19
Elgin & Nairn ...	6·11	·61	3·42	2·46	·21	8·76	3·25	2·01	1·60	5·36	·43	3·63	1·86	1·02	6·91	4·57	·54	1·45
Fife K. & C. ...	1·22	2·54	2·33	2·25	1·14	1·39	1·53	3·10	·62	7·35	2·36	2·15	2·75	4·65	1·88	2·29	2·42	1·42
Forfar ...	·53	·06	·57	·65	2·20	8·00	3·47	4·67	2·29	·71	1·13	·33	1·93	1·04	4·89	3·16	4·84	4·71
Dundee ...	3·71	·33	3·93	·97	1·34	·31	5·82	2·26	4·14	5·85	·12	3·13	2·04	1·94	2·13	6·21	4·41	3·70
Haddington ...	·47	1·13	1·52	2·15	1·13	5·18	1·26	1·08	1·80	3·58	·54	2·46	·83	1·31	3·32	1·24	2·46	1·44
Inverness ...	2·15	·82	6·93	5·18	4·04	8·73	·55	4·75	1·47	·91	1·21	7·23	5·69	8·60	10·61	·01	7·96	·13
Kincardine ...	·11	·16	3·03	3·96	1·15	1·20	3·46	1·24	1·40	4·36	1·47	4·53	·33	·94	1·90	4·04	2·76	2·97
Kirkcudbright ...	2·01	·70	2·02	4·29	1·32	1·92	1·29	2·84	·15	1·41	·72	2·13	1·20	·51	·90	4·62	2·53	1·48
Lanark ...	1·52	·07	·24	1·58	·66	8·48	1·25	6·34	1·33	2·29	1·01	1·16	2·95	4·86	4·92	1·48	2·57	·30
Glasgow ...	11·28	1·09	6·92	4·29	1·43	17·44	·97	4·66	8·49	22·71	1·81	9·26	13·42	1·31	13·73	2·03	6·22	6·95
Govan ...	7·66	·78	7·50	·53	·05	·09	·27	2·27	2·93	12·27	·08	9·36	2·18	·83	2·03	1·36	2·31	2·80
Linlithgow ...	1·35	2·12	2·75	5·45	·63	·83	2·98	·45	3·09	4·91	·61	·96	3·60	2·61	·49	1·66	·58	1·60
Orkney ...	3·30	·91	2·25	·34	·38	3·70	·31	1·62	5·31	4·85	·27	2·26	2·28	·06	3·99	·16	·68	4·33
Perth ...	4·22	2·34	4·45	·96	4·45	3·25	·33	3·03	1·02	3·66	·19	4·40	·15	3·89	2·89	·57	1·79	·16
Renfrew ...	3·69	·42	3·47	·45	1·50	·90	2·55	1·57	·28	8·16	1·30	4·40	3·53	2·11	2·83	1·43	2·62	1·05
Ross & Cromarty	3·93	·06	6·92	2·65	5·14	9·20	·63	3·10	5·02	4·78	·38	6·82	1·68	5·23	9·15	1·49	1·85	4·07
Roxburgh ...	4·31	1·24	1·97	2·57	·49	4·51	·74	5·26	1·27	4·42	1·54	2·39	2·80	·75	2·41	·70	4·05	1·70
Selkirk & P. ...	·82	·64	5·92	6·16	·50	1·23	2·87	2·94	1·20	·61	·71	4·82	4·94	1·00	·34	1·61	2·89	1·74
Shetland ...	1·84	1·88	2·86	·21	·95	11·71	5·05	3·80	·09	4·56	·88	3·23	1·76	1·18	9·71	4·55	3·31	·43
Stirling ...	·88	2·09	·28	2·03	1·00	1·03	·08	·27	1·09	·78	2·21	3·27	1·78	·01	·54	·64	·84	·22
Sutherland ...	·94	2·19	4·43	4·83	·10	3·23	3·04	·93	1·66	3·58	·44	2·03	1·20	·18	4·25	2·45	·73	3·01
Wigtown ...	·44	1·38	2·29	1·21	·92	3·72	2·33	·31	·24	1·41	·34	2·97	1·73	1·38	5·23	·45	3·85	·34

TABLE XI.

District Totals.

BOYS

Number of District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark	
I	592	119	849	504	36	281	594	719	506	2100
II	464	111	557	308	22	378	305	401	378	1462
III	533	136	1153	555	25	345	660	881	516	2402
IV	391	66	668	442	22	240	508	478	363	1589
V	963	174	1394	883	53	444	1084	1178	761	3467
VI	931	214	1547	904	50	369	1171	1294	812	3646
VII	536	103	855	557	24	258	611	781	425	2075
VIII	260	60	365	205	13	109	361	278	155	903
IX	765	127	1063	639	29	293	912	867	551	2623
X	286	63	655	272	7	163	389	484	247	1283
XI	837	190	1826	936	44	474	1134	1397	828	3833
XII	664	170	1171	781	18	317	960	936	591	2804
XIII	9161	2227	18999	10658	481	4964	12679	13887	9996	41526
XIV	650	154	1222	782	27	416	837	892	690	2835
XV	369	102	772	354	18	168	536	599	303	1606
XVI	360	79	569	374	7	242	362	491	294	1389
XVII	388	87	656	404	19	226	533	485	310	1554
XVIII	626	128	1069	550	62	417	659	783	576	2435
XIX	224	66	485	232	10	82	352	385	198	1017
XX	79	9	81	56	3	18	88	65	57	228
XXI	282	50	497	244	16	164	322	385	218	1089
XXII	157	32	311	190	17	105	204	220	178	707
XXIII	55	10	152	56	5	31	81	118	48	278
XXIV	760	198	1749	946	47	546	1073	1205	876	3700
XXV	340	88	507	368	18	169	447	392	313	1321
XXVI	673	115	1029	560	30	408	660	831	508	2407
XXVII	522	127	1002	522	21	309	754	672	459	2194
XXVIII	1044	192	1451	837	68	612	1157	1049	774	3592
XXIX	359	81	592	388	11	304	414	391	322	1431
XXX	833	143	1178	600	22	501	954	811	510	2776
XXXI	515	98	905	652	24	285	639	738	532	2194
XXXII	400	101	657	431	22	318	430	515	348	1611
XXXIII	173	41	300	231	11	105	215	255	181	756
XXXIV	601	154	1042	711	22	402	807	750	571	2530
XXXV	421	88	727	378	16	162	562	601	305	1630
XXXVI	479	97	725	453	24	250	619	552	357	1778
XXXVII	819	130	1382	698	13	493	892	1036	621	3042
XXXVIII	347	61	432	241	13	156	377	327	234	1094
XXXIX	466	108	736	412	23	347	497	470	431	1745
XL	307	68	578	224	14	217	268	452	254	1191
XLI	214	60	502	198	11	121	330	326	208	985
XLII	453	68	539	350	18	234	487	418	289	1428
XLIII	497	123	912	466	31	380	589	641	419	2029
XLIV	2584	529	4220	2388	98	1484	2927	2992	2416	9819
XLV	1365	343	2630	1411	42	611	1888	1978	1314	5791
XLVI	643	137	1024	531	22	378	753	733	493	2357
XLVII	795	160	1343	695	24	571	858	939	649	3017
XLVIII	822	219	1577	776	42	395	1140	1203	698	3436
XLIX	477	92	701	318	16	323	485	461	335	1604
L	207	43	412	280	19	141	243	355	222	961
LI	523	94	868	487	9	262	660	655	404	1981
LII	506	69	643	456	19	257	538	492	406	1693
LIII	588	115	1072	540	13	321	751	770	486	2328
LIV	338	73	642	309	19	243	374	466	298	1381
LV	454	86	726	414	36	256	538	526	396	1716

TABLE XI.—(*continued*).

District Totals.

BOYS

Number of District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark	
LVI	254	45	364	218	17	140	261	276	221	898
LVII	863	213	1749	847	38	476	1004	1424	806	3710
LVIII	283	68	560	325	15	187	390	434	240	1251
LIX	528	78	676	455	33	328	602	467	373	1770
LX	307	78	699	340	23	150	453	502	342	1447
LXI	471	96	737	477	35	356	498	577	385	1816
LXII	490	113	960	595	34	307	611	814	460	2192
LXIII	316	51	587	341	16	212	392	376	331	1311
LXIV	302	53	528	353	5	175	342	361	363	1241
LXV	435	114	911	469	22	380	576	570	425	1951
LXVI	2038	476	3964	2152	122	1270	2409	2950	2123	8752
LXVII	250	51	338	246	17	114	272	314	202	902
LXVIII	401	81	535	328	23	316	326	392	334	1368
LXIX	645	109	1042	579	20	278	710	820	587	2395
LXX	358	62	428	301	26	231	296	349	299	1175
LXXI	329	53	470	328	34	199	435	317	263	1214
LXXII	364	68	509	347	8	178	433	394	291	1296
LXXIII	271	65	531	267	10	191	360	355	238	1144
LXXIV	296	66	447	346	14	171	377	365	256	1169
LXXV	308	60	524	269	12	212	334	384	243	1173
LXXVI	76	12	145	86	12	66	83	106	76	331
LXXVII	2868	727	5061	2943	86	1494	3613	3908	2670	11685
LXXVIII	480	105	748	402	28	232	491	672	368	1763
LXXIX	369	107	714	447	17	301	532	516	305	1654
LXXX	703	176	1025	598	42	495	744	822	483	2544
LXXXI	406	102	817	451	27	218	506	635	444	1803
LXXXII	416	103	789	402	17	262	575	561	329	1727
LXXXIII	511	104	791	445	36	366	548	639	334	1887
LXXXIV	332	114	708	373	14	281	471	493	296	1541
LXXXV	631	166	1201	599	17	304	738	969	603	2614
LXXXVI	271	66	465	240	16	186	290	346	236	1058
LXXXVII	530	116	767	485	14	304	512	639	457	1912
LXXXVIII	537	84	578	378	18	371	427	421	376	1595
LXXXIX	317	75	561	245	13	161	365	459	226	1211
XC	295	78	448	299	23	272	334	296	241	1143
XCI	298	62	301	254	28	218	271	256	198	943
XCII	346	90	611	393	28	235	380	544	309	1468
XCIII	450	78	574	431	19	329	479	444	300	1552
XCIV	85	21	136	96	9	111	112	71	53	347
XCV	236	61	396	324	31	148	341	359	200	1048
XCVI	255	76	366	316	9	217	250	313	242	1022
XCVII	489	104	605	454	53	206	460	614	425	1705
XCVIII	222	65	536	290	15	155	345	362	266	1128
XCIX	466	97	599	521	40	305	552	482	384	1723
C	303	60	364	330	28	185	367	318	215	1085
CI	288	69	475	379	17	143	443	399	243	1228
CII	261	42	384	391	13	130	466	294	201	1091
CIII	343	67	590	404	22	254	371	509	292	1426
CIV	351	111	786	441	34	197	539	603	384	1723
CV	676	111	915	644	38	412	750	662	560	2384
CVI	288	35	433	226	10	86	323	379	204	992
CVII	145	17	219	163	7	105	173	157	116	551
CVIII	544	91	814	479	33	391	598	556	416	1961
CIX	565	101	819	496	27	353	615	691	349	2008
CX	371	91	540	346	21	354	329	382	304	1369

TABLE XII.

District Totals.

GIRLS

Number of District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark	
I	544	97	677	451	14	269	512	600	402	1783
II	459	83	525	280	16	289	387	325	362	1363
III	628	118	1014	522	20	348	675	831	448	2302
IV	412	89	667	416	19	307	419	496	381	1603
V	1003	177	1229	819	37	431	1029	1056	749	3265
VI	978	165	1384	794	30	366	1129	1126	730	3351
VII	551	110	779	470	15	254	562	681	428	1925
VIII	293	51	375	196	13	176	293	295	164	928
IX	642	102	956	607	23	288	809	677	556	2330
X	364	60	549	267	4	162	394	421	267	1244
XI	897	196	1515	899	37	419	1015	1282	828	3544
XII	677	164	1074	636	35	320	949	804	563	2636
XIII	8648	1952	17529	11151	484	4977	11982	13134	9671	39764
XIV	701	114	1166	755	23	421	849	838	651	2759
XV	326	82	693	323	11	145	473	507	310	1435
XVI	361	51	468	357	12	127	381	462	279	1249
XVII	358	69	604	402	16	162	473	495	319	1449
XVIII	575	121	977	605	56	435	636	705	558	2334
XIX	223	63	480	255	15	92	352	359	233	1036
XX	83	8	90	60	5	11	90	64	81	246
XXI	231	41	425	235	12	168	235	329	212	944
XXII	184	32	290	169	9	87	227	202	168	684
XXIII	70	12	126	93	7	39	99	102	68	308
XXIV	762	178	1569	984	32	504	1039	1177	805	3525
XXV	332	59	511	333	6	177	425	364	275	1241
XXVI	770	128	933	497	26	430	671	782	471	2354
XXVII	470	89	977	507	15	274	700	637	447	2058
XXVIII	1049	163	1296	827	35	605	1092	947	726	3370
XXIX	444	66	608	335	24	263	348	552	314	1477
XXX	811	147	1060	590	31	489	869	764	517	2639
XXXI	570	102	810	527	26	311	574	665	485	2035
XXXII	457	89	582	449	26	331	447	466	359	1603
XXXIII	217	32	317	213	8	130	240	220	197	787
XXXIV	640	111	875	597	30	335	777	668	473	2253
XXXV	385	62	561	359	14	153	480	460	288	1381
XXXVI	595	86	636	403	26	212	602	585	347	1746
XXXVII	948	140	1173	650	29	482	892	938	628	2940
XXXVIII	333	55	391	221	13	147	331	285	250	1013
XXXIX	478	93	603	376	22	280	463	447	382	1572
XL	302	62	477	205	12	188	269	381	220	1058
XLI	244	49	466	217	8	120	315	338	211	984
XLII	443	64	467	291	12	208	437	376	256	1277
XLIII	625	108	770	496	18	353	637	595	432	2017
XLIV	2593	485	4008	2518	139	1437	2908	2996	2402	9743
XLV	1602	289	2443	1448	36	642	1913	2009	1254	5818
XLVI	684	138	940	493	14	348	694	736	491	2269
XLVII	943	172	1265	574	23	530	883	946	618	2977
XLVIII	943	186	1344	785	24	440	1005	1130	707	3282
XLIX	516	66	572	318	14	281	493	380	332	1486
L	254	41	372	223	8	90	255	314	239	898
LI	516	73	735	413	7	218	588	578	360	1744
LII	601	55	585	377	11	301	472	456	400	1629
LIII	691	121	975	507	12	318	745	770	473	2306
LIV	413	65	571	277	11	222	372	443	300	1337
LV	532	89	608	430	22	244	518	478	441	1681

TABLE XII.—(*continued*).

District Totals.

GIRLS

Number of District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark	
LVI	263	48	313	220	19	133	247	260	223	863
LVII	923	154	1474	829	20	466	880	1271	783	3400
LVIII	336	73	505	325	16	186	394	416	259	1255
LIX	521	79	648	417	37	306	629	426	341	1702
LX	374	60	695	357	12	165	442	515	376	1498
LXI	510	78	585	394	24	315	451	455	370	1591
LXII	519	86	900	525	41	316	553	751	451	2071
LXIII	271	49	510	337	11	182	350	352	294	1178
LXIV	280	63	505	372	14	138	360	370	366	1234
LXV	426	94	809	408	21	322	485	523	428	1758
LXVI	2084	424	3560	2229	120	1178	2295	2880	2064	8417
LXVII	242	47	289	206	16	130	234	244	192	800
LXVIII	432	70	500	296	22	265	323	394	338	1320
LXIX	643	113	988	539	14	296	657	807	537	2297
LXX	360	62	306	268	30	227	256	275	268	1026
LXXI	325	52	411	321	21	190	397	311	232	1130
LXXII	374	48	494	282	16	186	386	340	302	1214
LXXIII	299	62	450	236	11	183	364	278	233	1058
LXXIV	375	79	400	294	13	186	392	365	218	1161
LXXV	307	62	360	236	18	172	270	309	232	983
LXXVI	92	15	99	77	10	67	74	92	60	293
LXXVII	2903	594	4342	2725	73	1482	3168	3582	2405	10637
LXXVIII	520	101	714	411	22	231	522	659	356	1768
LXXIX	457	84	582	411	21	257	544	439	315	1555
LXXX	754	132	807	535	34	446	721	670	425	2262
LXXXI	439	84	706	474	26	234	471	583	441	1729
LXXXII	509	80	684	396	18	233	533	569	352	1687
LXXXIII	569	101	704	413	31	324	538	586	370	1818
LXXXIV	364	63	648	313	27	240	451	432	292	1415
LXXXV	728	170	1139	597	15	276	772	952	649	2649
LXXXVI	341	79	457	251	17	234	304	354	253	1145
LXXXVII	634	112	753	421	20	345	538	619	438	1940
LXXXVIII	509	79	540	364	26	336	374	442	366	1518
LXXXIX	319	58	468	259	7	158	311	413	229	1111
XC	385	92	422	279	21	271	325	353	250	1199
XCI	327	57	275	243	31	216	256	251	210	933
XCII	350	65	545	411	17	254	385	448	301	1388
XCIII	507	64	574	405	33	335	494	457	297	1583
XCIV	93	35	91	104	7	98	117	71	44	330
XCV	270	41	380	301	19	140	297	332	242	1011
XCVI	349	52	360	227	11	226	290	245	238	999
XCVII	465	71	502	386	38	211	434	472	345	1462
XCVIII	279	46	494	261	12	146	341	326	279	1092
XCIX	484	61	494	481	33	306	473	410	364	1553
C	284	53	296	316	36	167	313	301	204	985
CI	298	56	430	341	16	147	389	381	224	1141
CII	258	54	337	291	14	134	372	258	190	954
CIII	387	59	535	375	32	232	414	439	303	1388
CIV	412	90	671	442	26	200	529	554	358	1641
CV	660	73	765	657	34	363	733	600	493	2189
CVI	294	29	388	213	3	68	330	328	201	927
CVII	104	31	205	122	12	99	168	99	108	474
CVIII	566	90	692	462	38	368	490	537	393	1788
CIX	573	87	672	405	21	321	536	577	324	1758
CX	378	64	408	261	18	284	272	310	263	1129

TABLE XIII.

District Percentages.

BOYS

Number of District	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
I	28·19	5·67	40·43	24·00	1·71	13·38	28·29	34·24	24·09
II	31·74	7·59	38·10	21·07	1·50	25·86	20·86	27·43	25·85
III	22·19	5·66	48·00	23·11	1·04	14·36	27·48	36·68	21·48
IV	24·61	4·15	42·04	27·82	1·38	15·10	31·97	30·08	22·85
V	27·77	5·02	40·21	25·47	1·53	12·81	31·26	33·98	21·95
VI	25·54	5·87	42·43	24·79	1·37	10·12	32·12	35·49	22·27
VII	25·83	4·96	41·21	26·84	1·16	12·43	29·45	37·64	20·48
VIII	28·79	6·65	40·42	22·70	1·44	12·07	39·98	30·79	17·16
IX	29·16	4·84	40·53	24·36	1·11	11·17	34·77	33·05	21·01
X	22·29	4·91	51·05	21·20	·55	12·71	30·32	37·72	19·25
XI	21·83	4·96	47·64	24·42	1·15	12·37	29·59	36·44	21·60
XII	23·68	6·06	41·76	27·86	·64	11·30	34·24	33·38	21·08
XIII	22·07	5·36	45·75	25·66	1·16	11·96	30·53	33·44	24·07
XIV	22·93	5·43	43·11	27·58	·95	14·67	29·53	31·46	24·34
XV	22·42	6·35	48·07	22·04	1·12	10·46	33·37	37·30	18·87
XVI	25·92	5·69	40·96	26·93	·50	17·42	26·06	35·35	21·17
XVII	24·97	5·60	42·20	26·00	1·23	14·54	34·30	31·21	19·95
XVIII	25·71	5·26	43·90	22·59	2·54	17·13	27·06	32·16	23·65
XIX	22·03	6·49	47·69	22·81	·98	8·06	34·61	37·86	19·47
XX	34·65	3·95	35·52	24·56	1·32	7·89	38·60	28·51	25·00
XXI	25·89	4·59	45·64	22·41	1·47	15·06	29·57	35·35	20·02
XXII	22·21	4·53	43·99	26·87	2·40	14·85	28·85	31·12	25·18
XXIII	19·78	3·60	54·68	20·14	1·80	11·15	29·14	42·44	17·27
XXIV	20·54	5·35	47·27	25·57	1·27	14·76	29·00	32·57	23·67
XXV	25·74	6·66	38·38	27·86	1·36	12·79	33·84	29·68	23·69
XXVI	27·96	4·78	42·75	23·26	1·25	16·95	27·42	34·52	21·11
XXVII	23·79	5·79	45·67	23·79	·96	14·08	34·37	30·63	20·92
XXVIII	29·07	5·35	40·39	23·30	1·89	17·04	32·21	29·20	21·55
XXIX	25·09	5·66	41·37	27·11	·77	21·25	28·93	27·32	22·50
XXX	30·01	5·15	42·44	21·61	·79	18·05	34·37	29·21	18·37
XXXI	23·47	4·47	41·25	29·72	1·09	12·99	29·12	33·64	24·25
XXXII	24·83	6·27	40·78	26·75	1·37	19·74	26·69	31·97	21·60
XXXIII	22·88	5·42	39·68	30·56	1·46	13·89	28·44	33·73	23·94
XXXIV	23·76	6·09	41·18	28·10	·87	15·89	31·90	29·64	22·57
XXXV	25·83	5·40	44·60	23·19	·98	9·94	34·48	36·87	18·71
XXXVI	26·94	5·45	40·78	25·48	1·35	14·06	34·81	31·05	20·08
XXXVII	26·92	4·27	45·43	22·95	·43	16·21	29·32	34·06	20·41
XXXVIII	31·72	5·57	39·49	22·03	1·19	14·26	34·46	29·89	21·39
XXXIX	26·70	6·19	42·18	23·61	1·32	19·89	28·48	26·93	24·70
XL	25·78	5·71	48·53	18·81	1·17	18·22	22·50	37·95	21·33
XLI	21·73	6·09	50·96	20·10	1·12	12·28	33·50	33·10	21·12
XLII	31·72	4·76	37·75	24·51	1·26	16·39	34·10	29·27	20·24
XLIII	24·49	6·06	44·95	22·97	1·53	18·73	29·03	31·59	20·65
XLIV	26·31	5·39	42·98	24·32	1·00	15·11	29·81	30·47	24·61
XLV	23·57	5·92	45·42	24·37	·72	10·55	32·60	34·16	22·69
XLVI	27·28	5·81	43·45	22·53	·93	16·04	31·94	31·10	20·92
XLVII	26·35	5·30	44·52	23·04	·79	18·93	28·44	31·12	21·51
XLVIII	23·92	6·37	45·90	22·59	1·22	11·50	33·18	35·01	20·31
XLIX	29·74	5·74	43·70	19·82	1·00	20·14	30·24	28·74	20·88
L	21·54	4·47	42·87	29·14	1·98	14·67	25·29	36·94	23·10
LI	26·40	4·75	43·82	24·58	·45	13·23	33·32	33·06	20·39
LII	29·89	4·08	37·98	26·93	1·12	15·18	31·78	29·06	23·98
LIII	25·26	4·94	46·05	23·19	·56	13·79	32·26	33·08	20·87
LIV	24·47	5·29	46·49	22·37	1·38	17·60	27·08	33·74	21·58
LV	26·46	5·01	42·31	24·12	2·10	14·92	31·35	30·65	23·08

TABLE XIII.—(*continued*).

District Percentages.

BOYS

Number of District	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
LVI	28·29	5·01	40·53	24·28	1·89	15·59	29·06	30·74	24·61
LVII	23·26	5·74	47·14	22·83	1·03	12·83	27·06	38·38	21·73
LVIII	22·62	5·43	44·77	25·98	1·20	14·95	31·17	34·69	19·19
LIX	29·83	4·41	38·19	25·71	1·86	18·53	34·01	26·39	21·07
LX	21·21	5·39	48·31	23·50	1·59	10·37	31·31	34·69	23·63
LXI	25·94	5·28	40·58	26·27	1·93	19·61	27·42	31·77	21·20
LXII	22·35	5·16	43·80	27·14	1·55	14·01	27·87	37·13	20·99
LXIII	24·10	3·89	44·78	26·01	1·22	16·17	29·90	28·68	25·25
LXIV	24·33	4·27	42·55	28·45	·40	14·10	27·56	29·09	29·25
LXV	22·30	5·84	46·69	24·04	1·13	19·48	29·52	29·22	21·78
LXVI	23·29	5·44	45·29	24·59	1·39	14·51	27·52	33·71	24·26
LXVII	27·73	5·64	37·47	27·27	1·89	12·64	30·16	34·81	22·39
LXVIII	29·31	5·92	39·11	23·98	1·68	23·10	23·83	28·65	24·42
LXIX	26·93	4·55	43·51	24·18	·83	11·61	29·64	34·24	24·51
LXX	30·47	5·28	36·42	25·62	2·21	19·66	25·19	29·70	25·45
LXXI	27·10	4·37	38·71	27·02	2·80	16·39	35·83	26·11	21·67
LXXII	28·09	5·25	39·27	26·77	·62	13·74	33·41	30·40	22·45
LXXIII	23·69	5·68	46·42	23·34	·87	16·70	31·47	31·03	20·80
LXXIV	25·32	5·64	38·24	29·60	1·20	14·63	32·25	31·22	21·90
LXXV	26·26	5·12	44·67	22·93	1·02	18·07	28·48	32·74	20·71
LXXVI	22·96	3·62	43·81	25·98	3·63	19·94	25·08	32·02	22·96
LXXVII	24·54	6·22	43·31	25·19	·74	12·79	30·92	33·44	22·85
LXXVIII	27·23	5·95	42·43	22·80	1·59	13·16	27·85	38·12	20·87
LXXIX	22·31	6·47	43·17	27·02	1·03	18·20	32·16	31·20	18·44
LXXX	27·63	6·92	40·29	23·51	1·65	19·46	29·24	32·31	18·99
LXXXI	22·52	5·66	45·31	25·01	1·50	12·09	28·06	35·22	24·63
LXXXII	24·09	5·96	45·69	23·28	·98	15·17	33·30	32·48	19·05
LXXXIII	27·08	5·51	41·92	23·58	1·91	19·40	29·04	33·86	17·70
LXXXIV	21·54	7·40	45·94	24·21	·91	18·24	30·56	31·99	19·21
LXXXV	24·14	6·35	45·94	22·92	·65	11·63	28·23	37·07	23·07
LXXXVI	25·61	6·24	43·95	22·69	1·51	17·58	27·41	32·70	22·31
LXXXVII	27·72	6·07	40·11	25·37	·73	15·90	26·78	33·42	23·90
LXXXVIII	33·67	5·26	36·24	23·70	1·13	23·26	26·77	26·40	23·57
LXXXIX	26·18	6·19	46·33	20·23	1·07	13·30	30·14	37·90	18·66
XC	25·81	6·82	39·20	26·16	2·01	23·80	29·22	25·90	21·08
XCI	31·60	6·58	31·92	26·93	2·97	23·12	28·74	27·15	20·99
XCII	23·57	6·13	41·62	26·77	1·91	16·01	25·88	37·06	21·05
XCIII	29·00	5·03	36·98	27·77	1·22	21·20	30·86	28·61	19·33
XCIV	24·50	6·05	39·19	27·67	2·59	31·98	32·29	20·46	15·27
XCV	22·52	5·82	37·78	30·92	2·96	14·12	32·54	34·26	19·08
XCVI	24·95	7·44	35·81	30·92	·88	21·23	24·46	30·63	23·68
XCVII	28·68	6·10	35·48	26·63	3·11	12·08	26·98	36·01	24·93
XCVIII	19·68	5·76	47·52	25·71	1·33	13·74	30·59	32·09	23·58
XCIX	27·04	5·63	34·77	30·24	2·32	17·70	32·04	27·97	22·29
C	27·93	5·53	33·55	30·41	2·58	17·05	33·82	29·31	19·82
CI	23·45	5·62	38·68	30·86	1·39	11·65	36·07	32·49	19·79
CII	23·92	3·85	35·20	35·84	1·19	11·92	42·71	26·95	18·42
CIII	24·05	4·70	41·38	28·33	1·54	17·81	26·02	35·69	20·48
CIV	20·37	6·44	45·62	25·60	1·97	11·43	31·28	35·00	22·29
CV	28·36	4·66	38·38	27·01	1·59	17·28	31·46	27·77	23·49
CVI	29·03	3·53	43·65	22·78	1·01	8·67	32·56	38·21	20·56
CVII	26·32	3·08	39·75	29·58	1·27	19·06	31·40	28·49	21·05
CVIII	27·74	4·64	41·51	24·43	1·68	19·94	30·50	28·35	21·21
CIX	28·14	5·03	40·79	24·70	1·34	17·58	30·63	34·41	17·38
CX	27·10	6·65	39·45	25·27	1·53	25·86	24·03	27·90	22·21

TABLE XIV.

District Percentages.

GIRLS

Number of District	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
I	30·51	5·44	37·97	25·30	·78	15·09	28·72	33·65	22·54
II	33·68	6·09	38·52	20·54	1·17	21·20	28·39	23·85	26·56
III	27·28	5·12	44·05	22·68	·87	15·12	29·32	36·10	19·46
IV	25·70	5·55	41·61	25·95	1·19	19·15	26·14	30·94	23·77
V	30·72	5·42	37·64	25·09	1·13	13·20	31·52	32·34	22·94
VI	29·19	4·92	41·30	23·70	·89	10·92	33·69	33·60	21·79
VII	28·62	5·71	40·47	24·42	·78	13·20	29·19	35·38	22·23
VIII	31·57	5·50	40·41	21·12	1·40	18·97	31·57	31·79	17·67
IX	27·55	4·38	41·03	26·05	·99	12·36	34·72	29·06	23·86
X	29·26	4·82	44·13	21·46	·32	13·02	31·67	33·84	21·46
XI	25·31	5·53	42·75	25·37	1·04	11·82	28·64	36·18	23·36
XII	25·68	6·22	40·74	26·03	1·33	12·14	36·00	30·50	21·36
XIII	21·75	4·91	44·08	28·04	1·22	12·52	30·13	33·03	24·32
XIV	25·41	4·13	42·26	27·37	·83	15·26	30·77	30·37	23·60
XV	22·72	5·71	48·29	22·51	·77	10·11	32·96	35·33	21·60
XVI	28·91	4·08	37·47	28·58	·96	10·17	30·50	36·99	22·34
XVII	24·71	4·76	41·68	27·74	1·11	11·18	32·64	34·16	22·02
XVIII	24·64	5·18	41·86	25·92	2·40	18·64	27·25	30·20	23·91
XIX	21·53	6·08	46·33	24·61	1·45	8·88	33·98	34·65	22·49
XX	33·74	3·25	36·59	24·39	2·03	4·47	36·58	26·02	32·93
XXI	24·47	4·34	45·02	24·90	1·27	17·80	24·89	34·85	22·46
XXII	26·90	4·68	42·40	24·71	1·31	12·72	33·19	29·53	24·56
XXIII	22·73	3·90	40·91	30·19	2·27	12·66	32·14	33·12	22·08
XXIV	21·62	5·05	44·51	27·91	·91	14·30	29·47	33·39	22·84
XXV	26·75	4·76	41·18	26·83	·48	14·26	34·25	29·33	22·16
XXVI	32·71	5·44	39·63	21·11	1·11	18·27	28·50	33·22	20·01
XXVII	22·84	4·33	47·47	24·63	·73	13·32	34·01	30·95	21·72
XXVIII	31·13	4·84	38·45	24·54	1·04	17·95	32·41	28·10	21·54
XXIX	30·06	4·47	41·16	22·68	1·63	17·81	23·56	37·37	21·26
XXX	30·73	5·57	40·17	22·36	1·17	18·53	32·93	28·95	19·59
XXXI	28·01	5·01	39·80	25·90	1·28	15·28	28·21	32·68	23·83
XXXII	28·51	5·55	36·31	28·01	1·62	20·65	27·88	29·07	22·40
XXXIII	27·57	4·07	40·28	27·06	1·02	16·52	30·50	27·95	25·03
XXXIV	28·41	4·93	38·83	26·50	1·33	14·87	34·49	29·65	20·99
XXXV	27·88	4·49	40·62	26·00	1·01	11·08	34·76	33·31	20·85
XXXVI	34·08	4·93	36·42	23·08	1·49	12·14	34·48	33·51	19·87
XXXVII	32·24	4·76	39·90	22·11	·99	16·39	30·34	31·91	21·36
XXXVIII	32·87	5·43	38·60	21·82	1·28	14·51	32·68	28·13	24·68
XXXIX	30·41	5·91	38·36	23·92	1·40	17·81	29·45	28·44	24·30
XL	28·54	5·86	45·09	19·38	1·13	17·77	25·43	36·01	20·79
XLI	24·80	4·98	47·36	22·05	·81	12·20	32·01	34·35	21·44
XLII	34·69	5·01	36·57	22·79	·94	16·29	34·22	29·44	20·05
XLIII	30·99	5·35	38·18	24·59	·89	17·50	31·58	29·50	21·42
XLIV	26·61	4·98	41·14	25·84	1·43	14·75	29·85	30·75	24·65
XLV	27·53	4·97	41·99	24·89	·62	11·04	32·88	34·53	21·55
XLVI	30·14	6·08	41·43	21·73	·62	15·34	30·58	32·44	21·64
XLVII	31·68	5·78	42·49	19·28	·77	17·80	29·66	31·78	20·76
XLVIII	28·73	5·67	40·95	23·92	·73	13·41	30·62	34·43	21·54
XLIX	34·73	4·44	38·49	21·40	·94	18·91	33·18	25·57	22·34
L	28·29	4·57	41·42	24·83	·89	10·02	28·40	34·97	26·61
LI	29·59	4·19	42·14	23·68	·40	12·50	33·72	33·14	20·64
LII	36·89	3·38	35·91	23·14	·68	18·48	28·98	27·99	24·55
LIII	29·96	5·25	42·28	21·99	·52	13·79	32·31	33·39	20·51
LIV	30·89	4·86	42·71	20·72	·82	16·61	27·82	33·13	22·44
LV	31·65	5·29	36·17	25·58	1·31	14·51	30·82	28·44	26·23

TABLE XIV.—(*continued*).

District Percentages.

GIRLS

Number of District	Hair					Eyes			
	Fair	Red	Medium	Dark	Jet Black	Pure Blue	Light	Medium	Dark
LVI	30·48	5·56	36·27	25·49	2·20	15·41	28·62	30·13	25·84
LVII	27·15	4·53	43·35	24·38	·59	13·71	25·88	37·38	23·03
LVIII	26·77	5·82	40·24	25·90	1·27	14·82	31·39	33·15	20·64
LIX	30·61	4·64	38·07	24·50	2·18	17·98	36·96	25·03	20·03
LX	24·97	4·01	46·39	23·83	·80	11·01	29·51	34·38	25·10
LXI	32·06	4·90	36·77	24·76	1·51	19·80	28·35	28·60	23·25
LXII	25·06	4·15	43·46	25·35	1·98	15·26	26·70	36·26	21·78
LXIII	23·01	4·16	43·29	28·61	·93	15·45	29·71	29·88	24·96
LXIV	22·69	5·11	40·92	30·15	1·13	11·18	29·17	29·99	29·66
LXV	24·23	5·35	46·02	23·21	1·19	18·32	27·59	29·75	24·34
LXVI	24·76	5·04	42·29	26·48	1·43	13·99	27·27	34·22	24·52
LXVII	30·25	5·87	36·13	25·75	2·00	16·25	29·25	30·50	24·00
LXVIII	32·73	5·30	37·88	22·42	1·67	20·08	24·47	29·85	25·60
LXIX	27·99	4·92	43·01	23·47	·61	12·89	28·60	35·13	23·38
LXX	35·09	6·04	29·83	26·12	2·92	22·13	24·95	26·80	26·12
LXXI	28·76	4·60	36·37	28·41	1·86	16·82	35·13	27·52	20·53
LXXII	30·81	3·95	40·69	23·23	1·32	15·32	31·80	28·00	24·88
LXXIII	28·26	5·86	42·53	22·31	1·04	17·30	34·40	26·28	22·02
LXXIV	32·30	6·81	34·45	25·32	1·12	16·02	33·76	31·44	18·78
LXXV	31·23	6·31	36·62	24·01	1·83	17·50	27·47	31·43	23·60
LXXVI	31·40	5·12	33·79	26·28	3·41	22·87	25·25	31·40	20·48
LXXVII	27·29	5·58	40·82	25·62	·69	13·93	29·78	33·68	22·61
LXXVIII	29·41	5·71	40·39	23·25	1·24	13·06	29·53	37·27	20·14
LXXIX	29·39	5·40	37·43	26·43	1·35	16·53	34·98	28·23	20·26
LXXX	33·33	5·84	35·68	23·65	1·50	19·72	31·87	29·62	18·79
LXXXI	25·39	4·86	40·83	27·42	1·50	13·53	27·24	33·72	25·51
LXXXII	30·17	4·74	40·55	23·47	1·07	13·81	31·59	33·73	20·87
LXXXIII	31·30	5·56	38·72	22·72	1·70	17·82	29·59	32·24	20·35
LXXXIV	25·73	4·45	45·79	22·12	1·91	16·96	31·87	30·53	20·64
LXXXV	27·48	6·42	43·00	22·54	·56	10·42	29·14	35·94	24·50
LXXXVI	29·78	6·90	39·91	21·92	1·49	20·44	26·55	30·92	22·09
LXXXVII	32·68	5·77	38·82	21·70	1·03	17·78	27·73	31·91	22·58
LXXXVIII	33·53	5·20	35·58	23·98	1·71	22·13	24·64	29·12	24·11
LXXXIX	28·71	5·22	42·13	23·31	·63	14·22	27·99	37·18	20·61
XC	32·11	7·67	35·20	23·27	1·75	22·60	27·11	29·44	20·85
XCI	35·05	6·11	29·48	26·04	3·32	23·15	27·44	26·90	22·51
XCII	25·22	4·68	39·27	29·61	1·22	18·30	27·74	32·28	21·68
XCIII	32·03	4·04	36·26	25·58	2·09	21·16	31·21	28·87	18·76
XCIV	28·18	10·61	27·57	31·52	2·12	29·70	35·45	21·52	13·33
XCV	26·70	4·05	37·59	29·78	1·88	13·84	29·38	32·84	23·94
XCVI	34·93	5·21	36·04	22·72	1·10	22·62	29·03	24·53	23·82
XCVII	31·81	4·85	34·34	26·40	2·60	14·43	29·68	32·29	23·60
XCVIII	25·55	4·21	45·24	23·90	1·10	13·38	31·22	29·85	25·55
XCIX	31·17	3·93	31·81	30·97	2·12	19·70	30·46	26·40	23·44
C	28·83	5·38	30·05	32·08	3·66	16·95	31·78	30·56	20·71
CI	26·12	4·91	37·69	29·88	1·40	12·89	34·09	33·39	19·63
CII	27·04	5·66	35·33	30·50	1·47	14·05	38·99	27·04	19·92
CIII	27·88	4·25	38·54	27·02	2·31	16·71	29·83	31·63	21·83
CIV	25·11	5·48	40·89	26·93	1·59	12·19	32·24	33·76	21·81
CV	30·15	3·34	34·95	30·01	1·55	16·58	33·49	27·41	22·52
CVI	31·71	3·13	41·86	22·98	·32	7·34	35·60	35·38	21·68
CVII	21·94	6·54	43·25	25·74	2·53	20·89	35·44	20·89	22·78
CVIII	28·30	5·03	38·70	25·84	2·13	20·58	27·41	30·03	21·98
CIX	32·59	4·95	38·23	23·04	1·19	18·26	30·49	32·82	18·43
CX	33·48	5·67	36·14	23·12	1·59	25·16	24·09	27·46	23·29

TABLE XV.

County and Parish Data.

ABERDEEN.

Parish	BOYS										District	GIRLS									
	Hair					Eyes				Totals		Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Aberdeen (Burgh) ...	2868	727	5061	2943	86	1494	3613	3908	2670	11685	*77*	2903	594	4342	2725	73	1482	3168	3582	2405	10637
Aberdour	32	12	60	48	6	34	37	53	34	158	*83*	24	12	48	31	4	20	31	34	34	119
Aboyne & Glen Tanar	32	12	49	53	0	24	43	51	28	146	*79*	39	12	52	44	0	16	60	39	32	147
Alford	34	19	67	15	3	46	41	29	22	138	*80*	42	14	52	25	4	46	37	31	23	137
Ardallie	21	5	48	13	0	21	35	21	10	87	*82*	14	1	44	20	0	17	39	19	4	79
Auchterless ...	28	6	73	27	2	27	46	39	24	136	*82*	24	8	50	26	1	15	38	42	14	109
Belhelvie	49	7	62	34	5	29	28	64	36	157	*78*	54	8	74	21	2	26	36	56	41	159
Birse	13	2	27	28	0	7	29	25	9	70	*79*	28	2	18	20	0	13	27	21	7	68
Bourtie	8	4	4	6	0	3	8	0	11	22	*80*	8	3	4	4	0	4	10	0	5	19
Cairney	46	10	43	28	0	23	30	38	36	127	*87*	44	5	46	28	2	21	25	38	41	125
Chapel of Garioch ...	36	5	27	18	0	17	31	25	13	86	*80*	39	5	46	29	0	27	31	34	27	119
Clatt	11	3	8	7	0	3	20	4	2	29	*80*	15	1	9	9	0	3	25	3	3	34
Cluny	21	4	52	7	2	28	15	29	14	86	*80*	25	5	35	19	0	14	30	24	16	84
Coull	4	1	12	11	0	3	6	8	11	28	*79*	6	0	10	6	2	8	6	6	4	24
Crathie and Braemar	27	12	33	29	1	16	37	35	14	102	*79*	21	5	48	23	1	22	21	31	24	98
Cruden	58	10	85	46	8	37	58	53	59	207	*78*	64	5	71	57	8	25	66	57	57	205
Culsalmond	11	0	10	4	1	10	4	10	2	26	*80*	6	3	9	11	0	8	5	11	5	29
Drumblade	16	6	26	21	1	24	11	11	24	70	*87*	25	3	26	13	0	31	13	13	10	67
Drumoak	13	4	40	26	2	16	25	25	19	85	*79*	18	4	21	17	1	7	23	16	15	61
Dyce	29	5	53	49	1	36	36	33	22	137	*80*	27	4	35	31	0	12	45	21	19	97
Echt	20	6	41	31	0	29	22	26	21	98	*79*	42	4	40	28	0	25	33	37	19	114
Ellon	88	22	191	64	6	45	115	138	73	371	*82*	91	10	182	54	2	35	100	136	68	339
Fintray	13	2	24	28	0	2	30	25	10	67	*80*	11	1	27	25	0	2	27	23	12	64
Forgue	13	5	63	47	1	20	30	51	28	129	*87*	34	8	35	30	0	18	27	39	23	107
Foveran	36	9	106	35	3	9	62	86	32	189	*78*	59	8	88	39	0	16	71	75	32	194
Fraserburgh ...	303	56	437	230	12	176	314	391	157	1038	*83*	352	55	396	249	14	175	327	352	212	1066
Fyvie	50	12	97	41	0	13	78	79	30	200	*82*	81	12	59	50	4	12	78	68	48	206
Gartly	9	2	33	20	0	16	23	17	8	64	*87*	8	3	26	18	1	17	25	11	3	56
Glass	11	1	42	18	3	21	15	25	14	75	*87*	15	3	35	15	3	17	16	20	18	71
Glenbucket ...	16	7	9	1	0	16	11	3	3	33	*80*	13	4	6	7	0	11	10	0	9	30
Glenmuick & Tullich	55	8	65	31	1	25	45	60	30	160	*79*	54	7	65	38	2	16	44	69	37	166
Huntly	133	21	182	117	4	67	134	137	119	457	*87*	144	29	193	113	5	76	122	152	134	484
Insch	32	9	59	35	0	23	37	58	17	135	*80*	45	5	24	36	4	28	31	34	21	114
Inverurie	132	28	166	114	3	89	101	168	85	443	*80*	133	22	144	68	3	65	96	139	70	370
Keig	21	3	11	20	6	16	14	13	18	61	*80*	22	2	9	6	1	17	12	5	6	40
Keithhall & Kinkell	7	3	30	13	2	10	16	19	10	55	*80*	16	3	33	13	3	15	17	25	11	68
Kennethmont ...	38	8	13	19	1	19	31	10	19	79	*80*	37	4	23	19	0	12	39	19	13	83
Kincardine O'Neil ...	41	9	133	37	7	35	80	88	24	227	*79*	53	8	88	38	7	28	80	63	23	194

King Edward ...	27	4	15	6	0	0	27	11	14	52	*86*	28	9	13	10	0	0	31	12	17	60
Kinimmouth ...	20	3	22	25	0	29	1	32	8	70	*84*	20	0	24	11	1	18	7	18	13	56
Kinellar	17	4	11	10	1	1	23	13	6	43	*80*	8	3	12	7	0	2	9	12	7	30
Kintore	66	9	149	64	4	49	97	91	55	292	*80*	86	14	87	62	3	45	84	84	39	252
Leochel Cushnie ...	38	15	64	45	5	38	65	28	36	167	*80*	47	15	47	46	1	41	57	30	28	156
Leslie	10	5	12	18	0	0	21	13	11	45	*80*	8	2	16	7	0	0	16	3	14	33
Logie Buchan ...	11	4	20	13	2	6	16	15	13	50	*78*	4	0	21	11	1	3	9	19	6	37
Logie Coldstone ...	10	3	24	20	0	0	33	8	16	57	*79*	17	1	26	20	1	1	43	2	19	65
Longside	48	10	98	46	1	49	41	71	42	203	*84*	48	8	99	44	1	46	41	84	29	200
Lonmay	43	6	74	43	9	46	38	48	43	175	*83*	38	10	73	35	2	37	30	54	37	158
Lumphanan ...	18	8	36	17	0	3	40	27	9	79	*79*	16	8	17	14	0	1	29	20	5	55
Meldrum	39	13	96	54	0	32	61	69	40	202	*82*	54	12	76	54	1	39	46	56	56	197
Methlick	55	10	54	40	2	29	67	31	34	161	*82*	59	2	65	43	1	31	66	36	37	170
Midmar	17	7	38	21	0	19	27	23	14	83	*79*	9	4	26	26	0	19	19	13	14	65
Millbrex	15	5	19	23	3	2	21	26	16	65	*82*	18	3	27	21	0	4	9	33	23	69
Monquhitter ...	45	11	71	58	2	33	56	50	48	187	*82*	70	12	58	46	1	24	57	65	41	187
Monymusk	18	13	54	35	1	15	33	48	25	121	*80*	41	5	40	32	1	14	34	48	23	119
New Byth	39	7	40	28	5	44	24	32	19	119	*86*	43	7	60	25	3	68	18	26	26	138
New Deer	74	22	176	79	6	66	100	122	69	357	*84*	85	10	169	81	7	61	107	112	72	352
Newhills	122	31	223	99	0	43	150	183	99	475	*78*	124	36	221	106	2	37	154	204	94	489
New Machar ...	42	12	66	54	4	3	57	69	49	178	*78*	39	6	70	47	0	3	65	70	24	162
New Pitsligo ...	65	21	143	41	4	35	113	78	48	274	*84*	44	13	123	36	3	33	84	49	53	219
Old Deer	68	34	162	134	3	40	137	148	76	401	*84*	81	21	148	95	14	31	121	125	82	359
Old Machar... ...	22	3	46	36	1	17	35	42	14	108	*78*	29	6	32	23	2	15	28	33	16	92
Oyne	17	5	22	12	0	14	16	18	8	56	*80*	20	1	22	13	0	19	18	13	6	56
Petercultter	125	24	113	75	3	87	67	135	51	340	*78*	113	24	123	73	6	88	71	117	63	339
Peterhead (Burgh) ...	303	89	666	346	15	169	388	504	358	1419	*81*	316	73	557	369	19	167	367	468	332	1334
„ (Land'd)...	54	9	118	87	11	39	66	110	64	279	*81*	58	10	111	92	6	42	57	89	89	277
Pitsligo	68	19	129	66	2	78	77	70	59	284	*83*	77	16	101	56	3	63	74	72	44	253
Premnay	15	0	24	21	0	0	11	38	11	60	*80*	16	4	12	17	0	3	14	19	13	49
Rathen	65	11	91	58	7	32	82	77	41	232	*83*	78	8	86	42	8	29	76	74	43	222
Rayne	23	3	67	11	0	12	28	48	16	104	*80*	23	3	56	13	1	22	21	41	12	96
Rhynie	28	4	22	14	0	26	11	19	12	68	*87*	26	1	17	8	2	16	9	21	8	54
St Fergus	49	4	33	18	1	10	52	21	22	105	*81*	65	1	38	13	1	25	47	26	20	118
Savoch	15	3	20	13	0	0	22	23	6	51	*82*	32	0	27	24	0	•8	18	38	19	83
Skene	39	8	37	31	5	26	36	28	30	120	*79*	34	8	34	36	3	15	45	33	22	115
Slains	15	5	27	10	2	1	18	25	15	59	*78*	34	8	14	34	1	18	22	28	23	91
Strathdon	29	12	42	27	3	22	18	49	24	113	*80*	22	5	31	23	5	17	19	29	21	86
Strichen	50	19	97	39	0	57	72	31	45	205	*84*	68	10	79	38	1	48	83	31	34	196
Tarland	9	5	27	27	1	16	15	23	15	69	*79*	20	7	33	31	0	21	18	20	32	91
Tarves	40	8	47	37	1	45	17	44	27	133	*82*	39	12	36	40	7	36	34	46	18	134
Tough	41	5	14	5	9	6	17	29	22	74	*80*	22	2	6	2	8	5	10	12	13	40
Towie	20	5	33	14	0	20	20	21	11	72	*80*	22	2	22	11	0	14	24	10	9	57
Turriff	90	24	222	107	2	26	157	174	88	445	*86*	108	29	228	104	7	31	155	180	110	476
Tyrie	7	5	10	9	0	5	7	11	8	31	*84*	18	1	6	8	0	3	8	13	9	33
Udny	7	2	27	7	0	1	20	15	7	43	*82*	18	2	19	6	0	0	20	15	10	45
Ythan Wells ...	13	6	46	25	1	14	37	26	14	91	*82*	9	6	41	12	1	12	28	15	14	69
Totals ...	6426	1600	11189	6382	283	3844	7848	8682	5506	25880	—	6890	1322	9762	5972	271	3677	7293	7963	5284	24217

TABLE XV.—(*continued*).

County and Parish Data.

ARGYLL.

Parish	BOYS										District	GIRLS									
	Hair					Eyes				Totals		Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Acharacle	7	5	10	22	0	5	18	15	6	44	*100*	6	3	10	14	0	6	12	11	4	33
Ardchattan and Muckairn ...	16	2	18	10	3	4	10	17	18	49	*101*	21	4	16	15	0	7	17	19	13	56
Ardgour	14	3	17	19	1	7	21	11	15	54	*100*	18	3	6	23	1	11	14	13	13	51
Ardnamurchan	0	1	2	13	0	3	1	8	4	16	*100*	0	1	5	12	0	4	1	12	1	18
Campbeltown (Burgh) ...	223	53	393	269	10	178	262	311	197	948	*103*	229	43	352	265	26	135	298	284	198	915
„ (Landward) ...	43	4	49	34	5	24	21	55	35	135	*103*	51	6	55	30	1	40	21	51	31	143
Coll	15	4	21	10	0	5	18	26	1	50	*100*	9	3	18	10	0	5	15	16	4	40
Colonsay and Oronsay ...	0	0	16	8	0	6	15	2	1	24	*102*	2	0	6	8	0	3	10	1	2	16
Craignish	8	1	22	8	1	1	26	12	1	40	*101*	9	0	15	7	1	1	20	11	0	32
Cumlodden	21	3	16	12	1	6	26	3	18	53	*101*	12	2	5	13	0	3	16	9	4	32
Dunoon and Kilmun ...	143	41	306	198	11	92	188	269	150	699	*104*	147	28	283	163	13	71	190	218	155	634
Gigha and Cara	19	1	13	8	0	4	30	5	2	41	*102*	18	2	8	8	0	6	20	7	3	36
Glassary	33	3	21	22	0	30	15	22	12	79	*101*	26	4	18	25	2	19	21	23	12	75
Glenaray & Inveraray (Burgh)	8	0	6	1	2	9	0	3	5	17	*101*	8	0	1	2	2	8	0	3	2	13
Glenorchy and Inishail ...	10	3	21	13	0	2	22	14	9	47	*101*	11	4	16	22	0	11	16	16	10	53
Inverchaolain	0	1	4	4	0	2	2	2	3	9	*104*	5	0	3	4	0	2	5	2	3	12
Jura	4	1	16	17	0	2	13	17	6	38	*102*	9	1	20	13	0	8	15	13	7	43
Kilbrandon and Kilchattan	21	1	29	25	0	7	34	27	8	76	*101*	16	1	19	21	0	6	23	17	11	57
Kilcalmonell	15	2	12	24	1	7	26	1	20	54	*102*	10	3	13	16	0	6	18	6	12	42
Kilchoman	59	13	88	65	2	17	97	78	35	227	*102*	62	13	79	44	5	21	94	45	43	203
Kilchrenan and Dalavich ...	11	7	22	7	0	11	11	21	4	47	*101*	18	4	24	10	0	19	17	11	9	56
Kildalton	33	6	68	57	3	28	61	32	46	167	*102*	41	6	53	45	3	33	38	43	34	148
Kilfinan	38	4	69	42	1	20	84	33	17	154	*102*	42	7	53	42	1	27	69	33	16	145
Kilfinichen and Kilvickeon	41	7	38	53	4	27	58	31	27	143	*100*	28	3	25	49	2	19	39	25	24	107
Killarrow and Kilmeny ...	63	8	62	119	5	27	85	89	56	257	*102*	45	11	63	79	3	18	62	68	53	201
Killean and Kilchenzie ...	20	3	27	10	3	27	5	20	11	63	*103*	33	6	32	9	2	37	11	19	15	82
Kilmartin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kilmodan	3	0	9	6	2	4	3	4	9	20	*104*	9	0	5	6	0	7	5	2	6	20
Kilmore and Kilbride ...	1	0	4	1	0	1	3	2	0	6	*101*	2	0	6	4	0	1	4	3	4	12
Kilninian and Kilmore ...	31	5	31	42	4	10	36	38	29	113	*100*	36	9	46	47	1	14	43	59	23	139
Kilninver and Kilmelford ...	4	1	9	1	1	6	4	5	1	16	*101*	2	0	1	3	2	2	0	5	1	8
Lismore and Appin	54	10	69	82	7	53	67	42	60	222	*101*	53	14	65	58	9	58	57	46	38	199
Lochgilphead	20	9	28	56	0	1	39	46	27	113	*101*	53	4	36	38	0	6	36	35	34	111
Lochgoilhead and Kilmorich	9	3	15	6	0	6	13	6	8	33	*101*	9	1	10	9	0	1	13	6	9	29
Morvern	18	1	17	8	0	15	10	16	3	44	*100*	19	5	12	13	1	10	12	18	10	50

North Knapdale	3	0	8	5	0	0	6	8	2	16	*102*	4	1	8	7	0	0	6	10	4	20
Oban (Burgh)	61	24	173	129	0	3	160	158	66	387	*101*	66	16	170	98	0	1	134	150	65	350
Saddell and Skipness ...	13	6	21	34	1	9	36	19	11	75	*102*	14	6	24	19	0	8	28	18	9	63
Salen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Small Isles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Southend	29	5	21	12	0	0	22	39	6	67	*103*	19	2	11	10	1	0	16	16	11	43
S. Knapdale	14	1	11	12	0	10	13	10	5	38	*102*	11	4	10	10	2	4	12	14	7	37
Stralachlan and Strachur ...	5	1	5	1	2	2	5	6	1	14	*101*	8	1	10	4	0	4	9	7	3	23
Strontian	9	2	22	11	2	3	24	3	16	46	*100*	11	4	13	6	2	5	21	7	3	36
Tarbert	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Torosay	20	2	13	5	1	8	17	12	4	41	*100*	13	0	7	10	2	11	8	8	5	32
Tyree	43	10	44	32	4	27	51	35	20	133	*100*	37	4	44	33	4	30	38	38	16	122
Totals	1202	257	1866	1513	77	709	1658	1573	975	4915	—	1222	229	1676	1324	86	688	1504	1418	927	4537

AYR.

Alloway	24	0	45	28	1	2	41	30	25	98	*31*	30	7	42	19	1	4	40	29	26	99
Ardrossan	112	36	241	176	4	45	223	188	113	569	*29*	200	33	259	133	4	14	156	340	119	629
Auchinleck	92	31	207	118	5	34	160	168	91	453	*26*	149	39	199	98	5	50	158	180	102	490
Ayr (Burgh)	340	88	507	368	18	169	447	392	313	1321	*25*	332	59	511	333	6	177	425	364	275	1241
Ballantrae	3	2	6	11	0	4	3	6	9	22	*32*	4	1	8	8	0	4	7	6	4	21
Barr	1	2	2	2	0	0	3	2	2	7	*31*	1	1	1	1	0	0	0	1	3	4
Beith	170	35	249	132	7	98	175	201	119	593	*30*	183	39	230	150	7	105	195	178	131	609
Colmonell	34	7	70	51	2	39	34	61	30	164	*32*	47	13	62	47	1	41	29	64	36	170
Coylton	67	13	79	67	4	71	59	43	57	230	*31*	86	16	67	36	5	78	57	26	49	210
Crosshill	24	4	36	31	2	22	33	26	16	97	*31*	32	5	33	37	2	23	36	29	21	109
Dailly	22	1	17	31	2	27	22	6	18	73	*31*	15	4	15	26	0	26	9	4	21	60
Dalmellington	40	7	104	36	0	2	99	56	30	187	*31*	55	10	95	39	0	7	97	63	32	199
Dalry	159	30	223	152	9	62	212	201	98	573	*30*	134	19	196	116	14	65	157	163	94	479
Dalrymple	23	9	85	30	2	8	57	45	39	149	*31*	20	5	77	26	2	8	47	43	32	130
Dreghorn	99	18	45	51	0	24	102	61	26	213	*28*	96	4	67	34	0	16	111	55	19	201
Dundonald	123	24	274	157	11	93	148	207	141	589	*28*	118	23	248	125	11	94	152	158	121	525
Dunlop	23	3	54	15	1	6	57	20	13	96	*30*	20	8	41	19	1	2	48	31	8	89
Fenwick	19	3	24	5	0	0	41	10	0	51	*30*	14	0	23	3	0	0	25	15	0	40
Galston	143	32	266	108	20	115	153	175	126	569	*28*	149	22	182	122	4	93	161	129	96	479
Girvan (Town)	102	13	78	100	6	46	94	95	64	299	*31*	103	11	97	69	3	51	81	90	61	283
„ (Landward)	23	9	105	62	1	20	38	89	53	200	*31*	21	13	86	65	4	15	36	87	51	189
Irvine (Burgh)	170	39	242	174	7	95	205	163	169	632	*28*	181	20	257	174	8	109	186	180	165	640
„ (Landward)	33	5	38	18	1	29	31	3	32	95	*28*	19	11	34	16	0	19	36	3	22	80
Kilbirnie	213	26	227	120	2	119	210	140	119	588	*30*	183	34	212	162	3	109	215	147	123	594
Kilmarnock (Burgh) ...	522	127	1002	522	21	309	754	672	459	2194	*27*	470	89	977	507	15	274	700	637	447	2058
„ (Landward) ...	57	14	64	43	2	9	70	41	60	180	*28*	42	11	57	48	1	11	56	47	45	159
Kilmaurs	170	18	215	78	1	5	218	170	89	482	*28*	136	31	177	85	1	14	174	139	103	430
Kilwinning	137	32	302	134	2	79	225	184	119	607	*30*	154	32	261	91	3	62	193	185	101	541
Kirkmichael	21	2	9	6	0	9	12	12	5	38	*31*	39	2	10	9	3	22	13	16	12	63

TABLE XV.—(*continued*).

County and Parish Data.

AYR—(*continued*).

Parish	BOYS Hair					BOYS Eyes				BOYS Totals	District	GIRLS Hair					GIRLS Eyes				GIRLS Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Kirkoswald	12	2	26	5	1	0	14	20	12	46	*31*	14	1	17	11	0	3	14	15	11	43
Largs	17	1	26	8	2	5	12	29	8	54	*23*	22	1	20	11	2	7	13	26	10	56
Loudoun	132	20	162	90	16	190	96	69	65	420	*28*	173	23	140	105	9	179	103	74	94	450
Mauchline	61	4	183	64	1	27	85	135	66	313	*26*	79	4	161	62	0	29	103	114	60	306
Maybole & Maybole W. Church	140	33	307	243	5	64	160	307	197	728	*31*	138	27	264	177	6	60	135	261	156	612
Monkton and Prestwick ...	74	12	106	24	2	19	44	106	49	218	*26*	70	12	92	34	4	25	53	96	38	212
Muirkirk	30	4	49	47	2	10	29	51	42	132	*26*	39	5	48	37	3	26	34	39	33	132
New Cumnock	104	31	118	85	2	89	106	85	60	340	*36*	128	16	108	90	0	78	110	91	63	342
Ochiltree	38	6	65	51	0	15	45	56	44	160	*26*	38	7	49	42	3	12	35	48	44	139
Old Cumnock	144	36	159	128	4	126	111	145	89	471	*26*	166	23	146	119	3	96	129	146	86	457
Riccarton	117	22	145	118	10	52	134	160	66	412	*28*	135	18	134	118	1	70	113	162	61	406
St Quivox (Landward) and Newton on Ayr (Landward)	13	1	24	12	8	12	14	22	10	58	*26*	9	0	24	5	1	8	9	18	4	39
Sorn	109	11	105	46	1	54	86	88	44	272	*26*	94	19	81	51	1	42	73	77	54	246
Stair	36	3	33	18	1	13	39	21	18	91	*26*	47	8	34	18	3	26	39	29	16	110
Stevenston	247	45	351	212	7	259	191	203	209	862	*29*	244	33	349	202	20	249	192	212	195	848
Stewarton	112	14	99	42	1	137	34	55	42	268	*30*	123	15	97	49	3	146	36	45	60	287
Straiton	16	3	12	11	0	14	7	7	14	42	*31*	16	0	6	12	0	14	9	1	10	34
Symington	16	3	3	13	4	16	5	7	11	39	*26*	19	1	9	8	2	21	6	6	6	39
Tarbolton	60	4	95	39	2	82	42	32	44	200	*26*	60	10	90	23	1	95	32	29	28	184
West Kilbride	32	8	93	34	3	23	58	60	29	170	*23*	40	10	90	65	5	29	73	62	46	210
Totals	4476	893	6977	4116	203	2748	5238	5125	3554	16665	—	4687	795	6483	3837	171	2708	4911	4960	3394	15973

BANFF.

Aberlour	71	21	86	77	9	84	64	43	73	264	*90*	84	27	75	66	4	70	63	62	61	256
Alvah	15	5	34	11	0	23	10	17	15	65	*86*	20	7	26	13	1	23	12	19	13	67
Banff (Burgh)	81	20	218	68	3	79	93	135	83	390	*85*	92	31	185	84	2	77	83	155	79	394
„ (Landward) and Ord ...	22	3	25	26	2	10	36	23	9	78	*85*	26	5	30	26	1	12	28	26	22	88
Bellie	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Boharm	23	4	42	18	1	15	32	26	15	88	*90*	26	8	33	24	1	17	21	29	25	92
Botriphnie	28	2	24	7	0	7	23	24	7	61	*87*	26	4	19	9	0	2	29	13	14	58

Boyndie	49	4	112	35	0	22	60	86	32	200	*85*	57	9	110	25	1	16	84	67	35	202
Cabrach	23	5	18	14	0	15	14	23	8	60	*87*	24	3	15	10	0	17	8	16	11	52
Cullen	18	17	95	68	1	22	19	108	50	199	*85*	21	17	121	24	0	13	36	97	37	183
Deskford	11	2	28	15	1	10	9	25	13	57	*86*	10	4	20	11	1	6	13	13	14	46
Enzie	62	17	89	35	2	11	71	88	35	205	*87*	82	10	85	31	0	16	77	88	27	208
Fordyee	135	18	181	125	2	64	129	162	106	461	*85*	131	23	170	125	9	44	120	174	120	458
Gamrie	133	28	155	79	0	2	135	156	102	395	*85*	139	25	174	102	0	5	149	139	147	440
Glenrinnes	3	2	14	9	0	13	10	2	3	28	*90*	12	3	9	11	2	11	15	6	5	37
Grange	15	3	13	8	0	7	13	10	9	39	*87*	13	2	12	10	1	6	10	15	7	38
Inveravon	51	15	53	74	9	46	54	58	44	202	*91*	59	11	47	55	6	43	54	35	46	178
Inverkeithny	12	7	19	21	1	4	25	17	14	60	*87*	22	6	21	7	0	6	24	11	15	56
Keith	105	29	125	86	2	52	79	115	101	347	*87*	137	28	157	92	6	70	121	130	99	420
Kirkmichael	6	0	4	8	2	0	5	10	5	20	*91*	5	2	5	4	1	0	6	8	3	17
Marnoch	77	17	87	54	4	57	40	74	68	239	*86*	111	19	76	66	4	78	50	88	60	276
Mortlaeh	76	19	103	43	3	49	92	48	55	244	*90*	85	21	105	38	3	60	66	69	57	252
Ordiquhill	12	7	39	19	4	26	23	13	19	81	*86*	21	4	34	22	1	28	25	16	13	82
Rathven (and Buekie) ...	193	76	415	198	9	105	266	299	221	891	*85*	262	60	349	211	2	109	272	294	209	884
Rothiemay	29	4	68	49	0	11	33	64	42	150	*87*	34	7	66	37	0	32	32	52	28	144
Totals	1250	325	2047	1147	55	734	1335	1626	1129	4824	—	1499	336	1944	1103	46	761	1398	1622	1147	4928

BERWICK.

Abbey St Bathan's	5	1	5	12	0	0	8	7	8	23	*42*	8	1	4	11	0	0	10	5	9	24
Ayton	22	2	10	13	1	2	13	20	13	48	*42*	19	0	12	7	1	5	14	9	11	39
Bunkle and Preston ...	4	0	7	4	0	3	2	9	1	15	*42*	11	0	6	2	0	6	5	6	2	19
Channelkirk	10	1	23	6	0	5	6	21	8	40	*42*	10	3	11	8	0	3	4	20	5	32
Chirnside	32	2	64	16	0	4	58	37	15	114	*42*	27	5	46	27	0	0	48	45	12	105
Cockburnspath	3	0	6	9	0	4	7	3	4	18	*42*	4	0	4	3	0	3	4	1	3	11
Coldingham	89	14	71	44	2	61	70	61	28	220	*42*	93	7	69	44	0	50	72	61	30	213
Coldstream	54	2	64	43	2	16	51	55	43	165	*42*	34	5	51	28	0	10	38	45	25	118
Cranshaws	0	0	2	9	0	0	6	4	1	11	*42*	0	0	6	3	0	0	4	4	1	9
Duns	9	4	22	9	0	6	18	14	6	44	*42*	5	3	16	7	0	4	9	6	12	31
Earlston	2	0	0	2	1	1	1	0	3	5	*42*	3	0	2	1	0	1	2	0	3	6
Eccles	17	5	15	4	0	17	6	16	2	41	*42*	14	5	25	10	0	23	10	9	12	54
Edrom	10	2	19	12	0	8	9	8	18	43	*42*	10	0	15	4	0	3	10	6	10	29
Foulden	12	0	13	6	0	10	7	9	5	31	*42*	9	0	5	8	0	4	14	2	2	22
Gordon	17	3	29	21	0	8	30	19	13	70	*42*	27	3	18	11	0	11	17	19	12	59
Hume and Stitchell ...	16	3	26	8	0	7	25	15	6	53	*42*	18	1	17	7	2	5	22	9	9	45
Hutton	23	9	21	13	2	15	21	14	18	68	*42*	31	2	14	12	2	17	20	13	11	61
Ladykirk	8	1	7	5	0	0	14	5	2	21	*42*	9	4	8	8	0	1	16	12	0	29
Langton	8	1	15	4	0	7	14	0	7	28	*42*	8	3	7	3	0	5	12	0	4	21
Lauder	43	3	29	19	0	11	38	24	21	94	*42*	25	6	26	12	1	3	32	20	15	70
Legerwood	10	2	6	9	2	8	15	4	2	29	*42*	11	2	16	10	0	7	15	11	6	39
Longformaeus	4	0	6	1	0	5	2	3	1	11	*42*	7	0	4	1	0	8	0	3	1	12
Mertoun	9	4	15	12	4	4	13	17	10	44	*39*	7	2	10	12	0	3	5	11	12	31

TABLE XV.—(*continued*).

County and Parish Data.

BERWICK—(*continued*).

Parish	BOYS Hair					BOYS Eyes				BOYS Totals	District	GIRLS Hair					GIRLS Eyes				GIRLS Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Mordington	6	3	3	4	0	6	1	4	5	16	*42*	7	4	8	5	0	10	2	6	6	24
Nenthorn	3	1	15	5	0	4	10	5	5	24	*42*	0	2	9	12	0	4	4	9	6	23
Polwarth	3	1	6	12	3	0	6	12	7	25	*42*	3	1	9	2	0	1	6	7	1	15
Swinton	13	1	25	33	2	8	19	26	21	74	*42*	18	3	32	17	2	7	19	26	20	72
Westruther	16	6	8	20	2	14	11	14	13	52	*42*	18	2	9	8	2	9	15	7	8	39
Whitsome	14	1	22	7	1	4	19	9	13	45	*42*	14	2	18	20	2	8	13	15	20	56
Totals	462	72	554	362	22	238	500	435	299	1472	—	450	66	477	303	12	211	442	387	268	1308
BUTE.																					
Cumbrae	22	7	49	22	2	9	36	29	28	102	*104*	25	10	47	13	0	9	34	25	27	95
Kilbride	18	1	61	47	0	13	21	68	25	127	*103*	30	2	69	40	1	14	33	61	34	142
Kilmory	10	1	39	32	4	12	40	16	18	86	*103*	25	0	16	21	1	6	35	8	14	63
Kingarth	17	7	34	28	5	6	40	26	19	91	*104*	12	5	26	22	2	5	35	13	14	67
North Bute	10	9	49	30	3	18	27	35	21	101	*104*	14	1	26	28	1	10	18	25	17	70
Rothesay (Burgh) ...	156	46	335	153	11	66	243	238	154	701	*104*	200	46	281	206	10	96	242	269	136	743
Totals	233	71	567	312	25	124	407	412	265	1208	—	306	64	465	330	15	140	397	401	242	1180
CAITHNESS.																					
Bower	15	2	49	33	1	27	13	39	21	100	*98*	39	4	50	15	3	39	26	28	18	111
Canisbay	37	7	62	35	2	24	36	59	24	143	*97*	57	8	53	30	2	16	54	47	33	150
Dunnet	31	9	48	11	0	19	25	40	15	99	*98*	27	3	42	11	0	17	19	31	16	83
Halkirk	47	9	54	36	6	35	44	40	33	152	*98*	64	4	43	33	3	24	39	46	38	147
Keiss...	7	7	15	9	0	6	10	13	9	38	*97*	11	3	7	2	0	11	3	4	5	23
Latheron	84	11	79	58	1	23	93	68	49	233	*97*	75	8	65	48	3	22	76	66	35	199

Olrig	38	6	61	58	2	36	49	34	46	165	*98*	41	8	64	25	1	23	46	38	32	139
Reay	8	5	30	6	1	3	3	32	12	50	*98*	9	1	18	6	0	2	9	14	9	34
Thurso	54	27	266	126	2	30	175	149	121	475	*98*	59	24	264	142	2	37	174	147	133	491
Watten	29	7	28	20	3	5	36	28	18	87	*98*	40	2	13	29	3	4	28	22	33	87
Wick (Burgh)... ...	279	67	394	305	46	116	244	430	301	1091	*97*	262	44	330	263	30	111	252	329	237	929
Wick (Landward) ...	82	12	55	47	4	37	77	44	42	200	*97*	60	8	47	43	3	51	49	26	35	161
Totals	711	169	1141	744	68	361	805	976	691	2833	—	744	117	996	647	50	357	775	798	624	2554

CLACKMANNAN.

Alloa (Town)... ...	236	44	435	188	0	56	339	331	177	903	*51*	243	36	401	182	1	64	350	291	158	863
„ (Landward) ...	59	6	54	31	0	72	35	15	28	150	*51*	56	0	45	19	1	53	35	12	21	121
Alva	25	6	34	9	1	36	4	27	8	75	*51*	11	2	4	2	1	12	0	5	3	20
Clackmannan	38	2	117	77	2	25	60	87	64	236	*51*	64	6	79	60	1	25	48	77	60	210
Dollar...	32	4	43	26	1	23	47	16	20	106	*51*	16	6	30	29	0	16	22	28	15	81
Tillicoultry	103	25	161	138	2	33	142	163	91	429	*51*	95	17	147	102	0	25	106	142	88	361
Totals	493	87	844	469	6	245	627	639	388	1899	—	485	67	706	394	4	195	561	555	345	1656

DUMBARTON.

Arrochar	6	1	17	5	0	1	8	15	5	29	*101*	4	1	18	12	0	0	6	20	9	35
Bonhill	344	48	401	320	16	188	381	273	287	1129	*105*	342	35	363	370	16	172	389	306	259	1126
Cardross	105	29	198	123	6	53	163	177	68	461	*105*	87	16	157	89	1	30	115	118	87	350
Cumbernauld	42	12	136	61	3	25	99	64	66	254	*10*	38	12	107	62	1	15	85	67	53	220
Dumbarton (Burgh) ...	288	35	433	226	10	86	323	379	204	992	*106*	294	29	388	213	3	68	330	328	201	927
Kilmaronock ...	18	0	13	10	1	18	5	16	3	42	*105*	20	0	5	21	1	20	7	16	4	47
Kirkintilloch (Town)...	95	27	141	106	3	66	127	109	70	372	*12*	98	29	128	106	11	78	124	101	69	372
„ (Land.)...	79	11	77	55	6	23	109	56	40	228	*12*	74	19	86	44	11	27	95	55	57	234
Luss	13	1	17	15	0	2	13	19	12	46	*105*	12	1	15	10	2	7	19	8	6	40
New or E. Kilpatrick...	65	21	158	51	0	21	116	110	48	295	*19*	70	19	158	63	0	41	129	97	43	310
Old or W. Kilpatrick...	157	32	311	190	17	105	204	220	178	707	*22*	184	32	290	169	9	87	227	202	168	684
Roseneath	15	0	15	20	2	4	29	16	3	52	*105*	11	1	7	15	1	6	18	10	1	35
Row	181	33	271	156	13	147	159	161	187	654	*105*	188	20	218	152	13	128	185	142	136	591
Totals	1408	250	2188	1338	77	739	1736	1615	1171	5261	—	1422	214	1940	1326	69	679	1729	1470	1093	4971

TABLE XV.—(*continued*).

County and Parish Data.

DUMFRIES.

Parish	BOYS										GIRLS									
	Hair					Eyes				Totals	District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Annan	174	23	264	163	4	123	120	236	149	628	*37*	175	30	236	118	7	111	128	188	139	566
Applegarth & Sibbaldbie	7	2	35	15	0	10	12	17	20	59	*37*	17	1	13	7	0	8	9	15	6	38
Brydekirk	15	0	20	15	0	17	9	15	9	50	*37*	26	3	34	26	2	23	27	18	23	91
Canonbie	32	3	16	22	0	13	26	21	13	73	*37*	38	4	20	17	1	13	33	18	16	80
Caerlaverock	10	5	9	8	0	6	11	12	3	32	*37*	8	1	9	9	1	8	6	8	6	28
Closeburn	25	8	64	36	0	8	66	29	30	133	*36*	49	9	64	40	0	17	53	55	37	162
Cummertrees	9	1	7	7	0	0	7	3	14	24	*35*	9	0	6	5	1	4	5	0	12	21
Dalton	10	2	17	9	0	7	12	9	10	38	*37*	15	1	15	5	0	11	12	9	4	36
Dornock	19	2	32	21	0	25	10	10	29	74	*37*	16	4	37	19	0	18	14	15	29	76
Dryfesdale	78	18	172	44	1	57	116	95	45	313	*37*	62	17	189	56	4	62	102	108	56	328
Dumfries (Burgh) ...	253	54	524	221	9	73	375	418	195	1061	*35*	214	30	371	207	7	69	308	281	171	829
,, (Landward)	101	23	169	98	4	63	134	117	81	395	*35*	115	23	157	97	1	59	129	128	77	393
Dunscore	24	3	19	34	8	15	35	20	18	88	*36*	17	2	26	24	10	15	21	31	12	79
Durrisdeer	22	0	14	25	2	8	24	16	15	63	*36*	37	3	29	17	1	11	39	25	12	87
Eskdalemuir	4	1	4	3	0	0	2	8	2	12	*37*	6	2	7	4	0	0	8	7	4	19
Ewes	3	5	12	0	0	0	13	7	0	20	*37*	2	1	7	1	0	0	5	3	3	11
Gleneairn	27	5	30	29	1	15	47	16	14	92	*36*	50	2	27	16	1	15	46	21	14	96
Gretna	32	5	29	32	0	2	25	43	28	98	*37*	44	7	31	25	2	3	40	41	25	109
Hoddam	26	5	57	28	0	6	60	31	19	116	*37*	48	2	32	23	1	16	53	15	22	106
Holywood	36	5	51	23	1	4	26	69	17	116	*36*	32	5	23	12	2	1	14	41	18	74
Hutton and Corrie ...	13	3	57	8	0	22	27	23	9	81	*37*	10	3	45	9	0	12	26	24	5	67
Johnstone	20	4	34	10	0	0	35	21	12	68	*37*	26	9	28	7	1	1	38	22	10	71
Keir	10	2	23	5	1	12	14	6	9	41	*36*	8	4	15	4	0	3	17	6	5	31
Kirkconnel	1	1	1	0	1	0	2	2	0	4	*36*	4	0	4	3	1	1	3	3	5	12
Kirkmahoe	10	0	10	10	0	2	16	7	5	30	*36*	5	0	9	7	0	5	6	8	2	21
Kirkmichael	13	1	29	16	1	7	24	22	7	60	*37*	17	5	17	19	2	5	20	18	17	60
Kirkpatrick Fleming ...	38	3	72	40	0	10	40	78	25	153	*37*	31	3	44	33	2	7	33	49	24	113
,, Juxta ...	17	4	27	11	1	21	16	10	13	60	*37*	36	5	17	9	1	18	24	8	18	68
Langholm	74	15	149	65	2	26	97	100	82	305	*37*	93	9	98	69	3	27	78	99	68	272
Lochmaben	96	6	88	45	0	38	76	89	32	235	*37*	113	6	75	43	0	32	76	104	25	237
Middlebie	40	6	51	32	1	17	39	47	27	130	*37*	46	8	45	42	0	23	29	56	33	141
Moffat	47	6	140	62	1	49	57	108	42	256	*37*	57	9	117	50	2	50	53	83	49	235
Morton	29	6	27	15	0	4	26	28	19	77	*36*	34	7	24	17	0	4	19	37	22	82
Mouswald	9	1	5	9	2	4	7	11	4	26	*35*	10	1	3	8	1	3	12	7	1	23
Penpont	13	4	37	10	0	9	27	23	5	64	*36*	14	6	34	10	1	7	21	31	6	65

St Mungo	15	6	9	12	0	27	4	2	9	42	*37*	22	1	17	11	0	24	7	6	14	51
Sanquhar	65	10	118	71	0	7	94	89	74	264	*36*	62	13	92	62	4	5	91	87	50	233
Tinwald	22	4	13	19	0	4	20	24	10	58	*37*	16	5	14	29	1	10	25	17	13	65
Torthorwald	39	4	13	35	1	16	28	40	8	92	*35*	29	7	15	33	3	10	20	36	21	87
Tundergarth	12	1	18	15	0	0	26	3	17	46	*37*	17	1	19	13	0	0	30	7	13	50
Tynron	4	3	14	5	0	6	6	10	4	26	*36*	16	0	11	2	0	5	8	12	4	29
Wamphray	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Westerkirk	9	2	22	8	2	12	15	6	10	43	*37*	12	2	9	9	0	5	14	3	10	32
Totals	1503	262	2502	1336	43	745	1826	1941	1134	5646	—	1658	251	2085	1217	63	721	1702	1750	1101	5274

EDINBURGH.

Borthwick	34	2	16	11	2	18	16	21	10	65	*47*	31	8	19	7	1	21	23	12	10	66
Carrington	10	0	3	7	0	2	10	0	8	20	*47*	9	3	5	6	1	3	12	0	9	24
Cockpen	28	9	82	49	2	19	65	56	30	170	*47*	45	8	62	30	2	17	53	56	21	147
Colinton	84	21	184	78	3	75	124	106	65	370	*46*	85	18	147	75	3	60	79	116	73	328
Corstorphine	65	12	65	52	2	28	57	76	35	196	*46*	43	10	59	38	2	7	62	53	30	152
Cramond	32	10	64	44	4	18	54	47	35	154	*46*	47	8	60	18	2	14	65	26	30	135
Cranston	40	3	40	22	1	31	32	31	12	106	*47*	46	2	36	13	0	16	38	34	9	97
Crichton	14	1	57	21	1	19	31	31	13	94	*47*	23	0	41	20	3	22	28	19	18	87
Currie	45	11	83	42	1	15	53	72	42	182	*46*	51	9	72	36	0	20	45	57	46	168
Dalkeith (Town) ...	61	18	160	75	2	27	139	89	61	316	*47*	85	17	140	56	1	15	125	101	58	299
Edinburgh City ...	2584	529	4220	2388	98	1484	2927	2992	2416	9819	*44*	2593	485	4008	2518	139	1437	2908	2996	2402	9743
Fala and Soutra ...	8	1	22	3	0	0	15	18	1	34	*47*	14	2	11	8	0	0	13	17	5	35
Glencorse	28	5	57	17	0	27	35	22	23	107	*47*	45	6	49	32	0	32	36	23	41	132
Heriot	5	3	13	11	0	2	0	18	12	32	*47*	8	0	15	11	0	0	0	18	16	34
Inveresk (Landward)	35	8	28	20	0	16	29	26	20	91	*46*	32	10	23	13	0	14	24	25	15	78
Kirknewton & E. Calder	65	16	95	82	6	13	84	99	68	264	*47*	91	12	125	61	2	34	89	111	57	291
Lasswade	244	41	437	181	6	221	212	282	194	909	*47*	270	66	395	164	7	183	243	283	193	902
Leith Burgh	1365	343	2630	1411	42	611	1888	1978	1314	5791	*45*	1602	289	2443	1448	36	642	1913	2009	1254	5818
Liberton	117	23	168	82	8	74	93	120	111	398	*46*	110	22	150	61	1	66	89	102	87	344
Mid-Calder	25	2	18	27	0	5	33	17	17	72	*47*	24	3	25	17	0	5	23	23	18	69
Musselburgh	219	42	361	185	3	127	284	229	170	810	*46*	275	50	385	219	4	142	280	325	186	933
Newbattle	2	2	17	10	0	13	4	6	8	31	*47*	7	1	11	3	0	7	1	7	7	22
Penicuik	54	14	109	57	1	26	44	94	71	235	*47*	59	13	95	48	2	21	62	89	45	217
Ratho	46	10	71	28	1	25	49	57	25	156	*46*	41	11	44	33	2	25	50	32	24	131
Stobhill	116	28	144	60	3	78	103	104	66	351	*47*	101	19	158	57	4	81	85	101	72	339
Temple	20	3	19	17	0	29	5	7	18	59	*47*	23	4	12	8	0	23	5	12	7	47
West Calder	41	12	54	45	0	41	30	44	37	152	*47*	62	8	66	33	0	50	47	40	32	169
Totals	5387	1169	9217	5025	186	3044	6416	6642	4882	20984	—	5822	1084	8656	5033	212	2957	6398	6687	4765	20807

TABLE XV.—(*continued*). *County and Parish Data.*

ELGIN.

Parish	BOYS										District	GIRLS									
	Hair					Eyes				Totals		Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Alves	11	3	49	15	0	4	20	45	9	78	*89*	13	2	63	9	1	7	19	54	8	88
Bellie	33	14	118	53	2	55	51	63	51	220	*88*	36	18	92	46	1	50	27	63	53	193
Birnie	7	2	1	27	1	5	5	24	4	38	*90*	23	3	4	19	3	6	13	25	8	52
Cromdale	14	9	42	19	1	24	26	17	18	85	*91*	22	7	23	25	1	18	24	21	15	78
Dallas	4	4	5	5	1	1	3	6	9	19	*90*	3	2	11	2	0	2	6	4	6	18
Drainie	90	15	158	79	2	70	100	84	90	344	*88*	74	15	114	75	6	52	80	88	64	284
Duffus	80	17	134	60	5	52	65	112	67	296	*89*	74	4	108	57	2	28	69	91	57	245
Dyke	21	6	40	14	1	2	24	38	18	82	*89*	24	4	34	22	0	2	29	35	18	84
Edinkillie	12	6	32	27	2	15	23	27	14	79	*90*	17	3	16	19	1	7	16	24	9	56
Elgin (Burgh)	234	23	146	116	3	168	107	120	127	522	*88*	220	24	161	144	8	144	110	159	144	557
Elgin (Landward) ...	63	8	50	58	7	50	50	56	30	186	*88*	72	8	61	41	8	53	35	58	44	190
Forres (Burgh) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kinloss	41	10	34	23	0	16	36	37	19	108	*89*	33	8	29	28	0	9	25	24	40	98
Knockando	13	5	65	27	0	34	25	33	18	110	*90*	34	9	72	46	0	34	51	56	20	161
New Spynie	8	6	17	6	1	2	11	12	13	38	*88*	6	1	10	3	0	1	8	8	3	20
Rafford	4	2	10	8	1	5	7	5	8	25	*90*	10	3	9	3	0	6	16	1	2	25
Rothes	75	12	78	47	5	44	61	71	41	217	*90*	74	10	82	40	7	50	49	64	50	213
St Andrews Lhanbryde	42	6	16	34	2	1	36	30	33	100	*88*	39	3	26	19	3	1	33	28	28	90
Speymouth	44	10	56	23	1	19	56	43	16	134	*88*	41	7	57	23	0	20	66	29	13	128
Urquhart	23	2	17	9	0	6	16	13	16	51	*88*	21	3	19	13	0	15	15	9	17	56
Totals	819	160	1068	650	35	573	722	836	601	2732	—	836	134	991	634	41	505	691	841	599	2636

FIFE.

Abdie	0	0	18	4	0	0	10	1	11	22	*55*	0	1	19	2	0	0	17	1	4	22
Aberdour	55	11	59	18	3	18	55	40	33	146	*53*	46	10	54	31	1	20	46	44	32	142
Anstruther (Easter) ...	15	10	57	42	9	18	40	40	35	133	*54*	13	7	57	53	2	16	41	31	44	132
Anstruther (Wester) ...	8	2	14	4	0	3	9	13	3	28	*55*	9	2	8	7	0	8	5	3	10	26
Auchterderran ...	124	29	230	102	0	44	176	201	64	485	*53*	144	20	195	94	2	36	144	206	69	455
Auchtermuchty ...	4	0	7	0	2	3	1	6	3	13	*57*	10	1	4	0	3	3	4	9	2	18
Auchtertool	9	5	28	20	0	2	20	29	11	62	*53*	17	6	21	22	0	0	26	26	14	66
Ballingry	44	8	78	66	3	6	64	66	63	199	*57*	30	10	66	54	0	9	44	53	54	160
Balmerino	12	1	30	10	0	14	11	16	12	53	*55*	11	4	10	10	0	6	13	6	10	35
Beath	495	109	895	481	25	324	526	725	430	2005	*57*	480	82	686	518	7	309	439	629	396	1773
Burntisland (Burgh & Landward)	42	1	42	26	0	9	52	19	31	111	*53*	53	14	45	33	2	16	73	30	28	147

Cameron	19	5	35	15	0	16	15	27	16	74	*55*	30	1	23	22	0	19	18	22	17	76
Carnbee	15	3	36	14	6	11	22	17	24	74	*55*	15	3	21	13	2	10	12	15	17	54
Carnock	8	1	17	9	2	6	12	10	9	37	*52*	10	0	15	3	0	2	15	7	4	28
Collessie	44	13	99	46	1	19	35	112	37	203	*57*	35	5	66	38	1	19	31	70	25	145
Crail	25	3	83	28	0	1	40	72	26	139	*55*	26	3	64	19	0	2	33	53	24	112
Culross	18	5	23	17	0	1	30	11	21	63	*52*	37	3	9	16	0	2	30	15	18	65
Cults	14	4	15	36	3	9	24	24	15	72	*55*	11	0	21	28	2	6	18	22	16	62
Cupar (Landward) ...	4	2	1	1	0	0	3	2	3	8	*55*	5	2	4	2	0	0	6	3	4	13
Dairsie	29	3	12	11	4	11	9	20	19	59	*55*	20	5	10	13	3	5	15	12	19	51
Dalgety	13	1	13	14	0	11	10	11	9	41	*53*	15	1	20	5	0	18	2	4	17	41
Dunbog	9	1	15	4	0	0	4	18	7	29	*55*	10	4	12	8	1	0	7	17	11	35
Dunfermline (Burgh) ...	242	34	371	248	6	133	296	282	190	901	*52*	266	34	319	208	3	146	227	266	191	830
„ (Landward)	238	29	232	182	11	117	200	189	186	692	*52*	288	18	242	150	8	151	200	168	187	706
Dunino	10	0	13	9	0	3	14	12	3	32	*55*	8	1	12	9	2	1	9	15	7	32
Dysart (Burgh) ...	69	15	119	51	8	60	58	84	60	262	*54*	92	15	117	51	8	54	83	88	58	283
Elie	23	5	23	17	0	0	31	26	11	68	*55*	20	3	21	10	0	0	25	20	9	54
Falkland	28	15	73	42	1	9	39	62	49	159	*57*	41	10	44	57	0	9	36	58	49	152
Flisk	9	2	9	11	0	1	17	9	4	31	*55*	8	0	9	13	0	0	12	10	8	30
Forgan	43	3	46	33	1	20	46	42	18	126	*55*	48	4	50	30	7	25	46	42	26	139
Inverkeithing	68	14	174	78	4	20	124	116	78	338	*53*	102	18	137	97	2	13	118	141	84	356
Kennoway	32	11	69	32	0	27	48	48	21	144	*54*	46	7	58	35	0	30	35	40	41	146
Kettle	6	0	3	3	0	0	5	2	5	12	*57*	9	1	2	3	0	0	10	2	3	15
Kilconquhar	18	9	41	39	0	10	35	36	26	107	*55*	19	6	21	22	0	5	30	18	15	68
Kilmany	0	1	11	1	0	2	3	3	5	13	*56*	2	1	5	1	0	2	4	0	3	9
Kilrenny	100	9	130	66	3	73	72	94	69	308	*55*	126	13	147	68	0	90	79	97	88	354
Kinghorn	60	18	70	43	2	29	39	73	52	193	*53*	70	6	59	29	2	40	30	52	44	166
Kinglassie	29	4	34	28	1	27	27	21	21	96	*54*	30	2	29	22	0	21	12	25	25	83
Kingsbarns	31	2	23	14	0	18	28	14	10	70	*55*	30	0	14	14	0	11	18	18	11	58
Kirkcaldy (Burgh) ...	207	43	412	280	19	141	243	355	222	961	*50*	254	41	372	223	8	90	255	314	239	898
„ & Dysart (Land.)	23	5	27	57	1	1	56	32	24	113	*54*	28	8	34	30	1	6	54	28	13	101
Largo	60	10	54	22	3	25	40	62	22	149	*54*	74	7	41	29	1	21	33	64	34	152
Largoward	22	2	0	5	1	1	13	11	5	30	*55*	22	0	3	3	0	0	12	11	5	28
Leslie	42	24	241	48	0	11	99	178	67	355	*57*	80	10	211	88	0	17	68	211	93	389
Leuchars	51	11	109	55	2	7	83	77	61	228	*55*	83	9	71	51	2	10	79	79	48	216
Lochgelly	217	36	456	239	4	188	275	281	208	952	*53*	244	46	444	196	3	175	306	267	185	933
Markinch	103	24	256	92	6	93	112	153	123	481	*54*	113	18	213	95	1	81	116	143	100	440
Monimail	10	4	21	5	2	16	12	10	4	42	*56*	9	7	16	13	1	18	7	10	11	46
Moonzie	20	1	1	5	2	11	3	0	15	29	*56*	17	0	2	3	1	10	1	0	12	23
Newburgh	53	12	76	42	3	49	36	54	47	186	*55*	39	11	84	46	2	51	22	58	51	182
Newburn	9	1	1	0	1	4	6	1	1	12	*55*	72	3	1	5	3	8	1	7	3	19
Pittenweem	32	5	67	42	3	12	56	45	36	149	*55*	43	6	71	67	0	14	70	46	57	187
St Andrews (Burgh) ...	53	12	112	74	8	50	81	75	53	259	*55*	75	21	81	63	10	35	91	64	60	250
„ (Landward)	5	2	9	13	0	0	14	4	11	29	*55*	8	0	4	15	0	0	13	7	7	27
St Monance	69	16	82	32	5	36	62	39	67	204	*55*	81	20	60	40	3	25	61	51	67	204
Scoonie	5	0	19	8	0	10	10	5	7	32	*54*	5	3	24	6	0	9	6	16	7	38
Springfield	22	10	28	13	0	5	26	31	11	73	*57*	25	2	27	12	2	2	32	21	13	68
Strathmiglo	53	8	57	30	1	33	41	45	30	149	*57*	54	7	45	46	2	33	44	39	38	154
Wemyss	17	4	64	19	0	0	23	61	20	104	*54*	25	5	55	9	0	0	33	39	22	94
Totals	3085	618	5340	2946	156	1768	3541	4112	2724	12145	—	3518	547	4575	2850	98	1709	3317	3813	2749	11588

TABLE XV.—(*continued*).

County and Parish Data.

FORFAR.

Parish	BOYS										GIRLS									
	Hair					Eyes				Totals	District	Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Aberlemno	16	4	28	13	0	20	8	26	7	61	*73*	13	0	21	15	0	8	8	16	17	49
Airlie	13	2	17	2	0	7	0	21	6	34	*68*	19	3	23	1	0	11	0	23	12	46
Arbirlot	24	3	12	18	0	2	32	7	16	57	*65*	22	1	5	19	0	0	21	9	17	47
Auchterhouse	21	1	7	6	0	18	7	9	1	35	*68*	19	2	10	8	2	12	7	15	7	41
Arbroath (Burgh) ...	302	53	528	353	5	175	342	361	363	1241	*64*	280	63	505	372	14	138	360	370	366	1234
Barry	95	20	215	81	4	46	157	139	73	415	*65*	96	25	162	109	7	38	141	126	94	399
Brechin (Burgh) ...	83	23	245	103	1	63	143	150	99	455	*73*	74	29	213	84	2	62	125	127	88	402
„ (Landward) ...	30	6	27	21	0	25	27	14	18	84	*73*	35	2	22	19	0	19	31	13	15	78
Broughty Ferry (Burgh)	191	59	393	228	12	256	211	210	206	883	*65*	177	45	376	181	12	208	175	224	184	791
Careston	3	2	7	11	0	3	7	6	7	23	*73*	10	6	20	6	0	23	4	1	14	42
Carmyllie	47	5	47	23	1	22	39	34	28	123	*67*	45	8	31	20	1	32	31	30	12	105
Craig	30	10	30	8	2	19	18	25	18	80	*72*	35	4	34	11	0	25	12	30	17	84
Cortachy and Clovax ...	7	3	13	7	4	12	10	6	6	34	*75*	8	0	10	8	1	6	11	4	6	27
Dundee (Burgh) ...	2009	468	3925	2126	122	1258	2373	2929	2090	8650	*66*	2044	421	3540	2194	120	1168	2261	2855	2035	8319
„ (Landward) ...	29	8	39	26	0	12	36	21	33	102	*66*	40	3	20	35	0	10	34	25	29	98
Dunnichen	22	9	32	38	1	18	23	39	22	102	*67*	29	5	49	21	1	18	37	39	11	105
Eassie and Nevay ...	12	1	22	14	0	14	10	13	12	49	*68*	20	1	10	7	0	7	10	15	6	38
Edzell	34	5	47	16	1	24	27	26	26	103	*75*	28	7	13	19	0	16	13	20	18	67
Fern	9	1	7	11	0	0	16	12	0	28	*75*	9	0	8	11	0	0	10	16	2	28
Forfar (Burgh) ...	50	17	134	70	10	27	66	115	73	281	*67*	46	13	102	56	8	20	51	86	68	225
„ (Landward) ...	1	4	23	13	1	11	1	7	23	42	*67*	6	2	14	9	1	16	3	5	8	32
Fowlis Easter ...	8	0	2	13	1	0	4	11	9	24	*68*	13	3	2	14	0	1	12	11	8	32
Glamis	9	0	4	6	0	1	9	9	0	19	*67*	4	2	5	8	0	3	7	9	0	19
Glenisla	18	2	48	21	0	13	34	28	14	89	*76*	22	2	18	13	0	13	21	14	7	55
Guthrie	7	0	17	7	0	14	9	2	6	31	*73*	14	1	13	11	0	10	16	4	9	39
Inverarity	6	3	18	28	2	4	29	12	12	57	*67*	7	1	17	17	4	2	11	17	16	46
Inverkeilor	43	5	42	30	0	35	28	34	23	120	*65*	41	5	52	23	1	39	28	19	36	122
Kettins	9	3	30	10	0	18	2	20	12	52	*68*	7	2	18	16	0	16	4	11	12	43
Kinnell	14	2	18	26	0	8	21	16	15	60	*72*	13	2	19	8	0	7	10	5	20	42
Kinnettles	3	1	27	10	1	7	11	14	10	42	*67*	6	4	22	6	0	9	10	6	13	38
Kirkden	12	2	5	5	0	3	8	11	2	24	*67*	6	1	6	4	0	2	6	8	1	17
Kirriemuir	184	36	285	149	6	132	177	214	137	660	*75*	164	34	195	123	10	105	140	146	135	526
Liff, Benvie, etc. ...	34	11	52	25	0	20	46	33	23	122	*68*	34	7	51	26	0	18	49	32	19	118
Lintrathen	10	2	23	10	5	18	4	9	19	50	*76*	13	3	17	14	8	22	2	11	20	55
Lochlee	7	2	0	8	0	1	5	4	7	17	*75*	8	4	1	7	2	2	3	5	12	22
Logie Pert	8	3	29	5	0	1	21	16	7	45	*73*	20	5	18	3	0	2	23	13	8	46

Lunan	8	1	13	6	0	3	15	8	2	28	*72*	6	1	12	5	0	1	12	5	6	24
Lundie	11	2	7	8	0	2	2	12	12	28	*68*	14	3	4	7	0	4	0	17	7	28
Mains & Strathmartine	36	9	57	26	4	37	32	31	32	132	*68*	44	5	58	17	3	34	35	29	29	127
Maryton	8	1	12	12	0	2	10	7	14	33	*72*	4	2	12	5	0	2	8	3	10	23
Menmuir	13	1	22	14	0	10	18	8	14	50	*73*	16	0	14	15	0	2	19	10	14	45
Monifieth	34	9	102	54	4	14	43	102	44	203	*65*	34	13	85	40	1	10	47	79	37	173
Monikie	34	9	45	39	1	17	44	43	24	128	*67*	42	8	41	50	1	26	45	26	45	142
Montrose (Burgh) ...	173	30	252	126	3	107	162	183	132	584	*72*	156	14	211	92	7	68	158	144	110	480
„ (Landward)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Murroes	66	1	3	14	0	4	42	30	8	84	*67*	51	3	2	15	0	2	33	18	18	71
Navar and Lethnot ...	1	0	10	3	0	3	4	4	3	14	*75*	7	0	4	3	0	2	5	6	1	14
Newtyle	10	5	40	18	0	15	18	21	19	73	*68*	9	2	42	14	1	11	22	17	18	68
Oathlaw	8	1	23	9	0	17	2	16	6	41	*75*	14	2	10	9	0	15	1	13	6	35
Panbride	26	11	96	22	2	4	89	35	29	157	*65*	28	4	75	11	0	3	59	25	31	118
Rescobie	4	3	3	5	0	7	0	4	4	15	*73*	2	0	6	3	0	0	9	1	1	11
St Vigeans & Arbroath (Landward)	22	7	51	36	0	23	16	43	34	116	*65*	28	1	54	25	0	24	14	41	29	108
Tannadice	16	6	25	15	1	3	28	18	14	63	*75*	22	6	23	21	4	4	24	27	21	76
Tealing	17	6	14	18	0	19	7	9	20	55	*68*	18	5	18	10	0	19	10	13	9	51
Totals	3887	878	7173	3966	194	2594	4493	5177	3834	16098	—	3922	785	6313	3840	211	2315	4188	4834	3734	15071

HADDINGTON.

Aberlady	11	3	47	13	0	17	26	21	10	74	*43*	17	1	33	19	0	7	28	17	18	70
Bolton	5	3	8	4	0	1	7	8	4	20	*43*	3	2	8	0	0	2	4	4	3	13
Dirleton	11	7	13	13	0	7	7	17	13	44	*43*	7	0	17	8	0	5	1	18	8	32
Dunbar (Burgh) ...	64	14	145	48	7	47	84	83	64	278	*43*	72	12	122	51	6	34	91	82	56	263
„ (Landward) ...	10	2	10	9	2	0	13	13	7	33	*43*	23	1	11	10	0	1	18	18	8	45
Garvald	8	1	6	19	0	3	17	8	6	34	*43*	14	6	7	17	0	2	32	5	5	44
Gladsmuir	18	5	39	22	2	39	19	13	15	86	*43*	20	3	31	29	0	30	18	19	16	83
Haddington (Burgh) ...	74	14	143	71	1	63	70	120	50	303	*43*	97	22	162	81	1	66	96	134	67	363
Innerwick	7	5	24	12	0	19	7	11	11	48	*43*	29	2	10	18	0	23	17	11	8	59
Morham	7	3	7	7	0	2	11	8	3	24	*43*	8	2	8	11	0	4	10	6	9	29
North Berwick ...	82	16	108	55	3	47	95	69	53	264	*43*	91	16	86	57	1	44	102	50	55	251
Ormiston	28	11	81	17	2	25	42	45	27	139	*43*	27	9	70	16	0	31	41	32	18	122
Pencaitland	9	3	25	19	4	7	23	19	11	60	*43*	24	2	16	16	0	9	22	18	9	58
Prestonpans	71	13	149	82	3	73	65	96	84	318	*43*	96	15	101	75	1	65	68	82	73	288
Salton	15	4	21	8	1	9	12	19	9	49	*43*	16	2	20	13	2	6	9	24	14	53
Spott	8	6	13	5	0	7	14	5	6	32	*43*	1	5	7	2	0	1	4	6	4	15
Stenton	14	2	16	11	0	6	10	23	4	43	*43*	18	0	19	18	1	5	14	24	13	56
Whitekirk & Tyninghame	38	6	18	16	2	1	42	24	13	80	*43*	27	3	11	15	2	1	28	20	9	58
Whittinghame ...	8	0	9	9	0	0	12	9	5	26	*43*	11	1	13	4	0	4	18	3	4	29
Yester	9	5	30	26	4	7	13	30	24	74	*43*	24	4	18	36	4	13	16	22	35	86
Totals	497	123	912	466	31	380	589	641	419	2029	—	625	108	770	496	18	353	637	595	432	2017

TABLE XV.—(*continued*). *County and Parish Data.*

INVERNESS.

Parish	BOYS										GIRLS									
	Hair					Eyes				Totals	District	Hair					Eyes			Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Abernethy and Kincardine	51	7	26	24	4	31	18	38	25	112	*91*	47	5	27	30	3	17	23	41	31	112
Alvie	11	4	15	13	1	7	12	13	12	44	*91*	18	2	10	19	2	10	13	13	15	51
Arisaig and Moidart ...	15	2	16	7	1	15	9	13	4	41	*100*	11	1	12	11	0	8	9	12	6	35
Barra	20	5	113	75	0	20	80	57	56	213	*107*	30	6	113	65	1	19	101	42	53	215
Boleskine & Abertarff	12	6	42	33	1	9	48	19	18	94	*94*	14	10	28	25	0	5	48	16	8	77
Bracadale	17	3	10	34	1	7	15	24	19	65	*99*	17	0	18	22	2	13	12	16	18	59
Croy and Dalcross ...	6	7	44	25	2	8	27	29	20	84	*89*	14	5	28	30	0	8	14	30	25	77
Daviot and Dunlichty	17	5	22	20	2	16	18	19	13	66	*91*	26	4	18	19	4	21	20	14	16	71
Dores	15	4	18	16	3	14	19	10	13	56	*94*	25	4	20	15	1	22	25	13	5	65
Duirinish	43	3	29	44	0	15	42	19	43	119	*99*	34	2	29	39	1	10	32	25	38	105
Duthil&Rothiemurchus	57	9	48	33	8	13	67	49	26	155	*91*	54	7	45	32	19	19	55	54	19	147
Glenelg	35	4	28	19	3	26	19	23	21	89	*99*	30	2	26	25	2	24	20	18	23	85
Glengarry	16	3	9	5	1	10	6	12	6	34	*100&94*	14	2	13	7	0	8	9	10	9	36
Harris	37	1	99	89	2	29	81	62	56	228	*108*	37	1	88	74	2	35	79	41	47	202
Insh	1	0	1	4	0	6	0	0	0	6	*91*	4	1	3	5	0	7	3	0	3	13
Inverness (Burgh) ...	311	80	555	358	25	192	350	510	277	1329	*93*	330	55	484	372	17	212	348	431	267	1258
,, (Landward)	35	10	56	35	3	43	30	34	32	139	*93*	20	10	61	39	0	42	37	17	34	130
Kilmallie	71	17	98	86	10	47	96	72	67	282	*100*	59	15	69	61	11	28	79	58	50	215
Kilmonivaig	6	0	17	14	1	5	1	17	15	38	*100*	13	1	8	19	8	6	10	8	25	49
Kilmorack	29	10	53	35	2	27	49	20	33	129	*93*	32	6	59	31	7	23	63	24	25	135
Kilmuir	29	1	2	3	0	2	18	2	13	35	*99*	23	0	0	3	1	2	12	0	13	27
Kiltarlity	20	1	19	18	4	29	6	19	8	62	*94*	19	3	15	24	5	23	18	15	10	66
Kingussie	57	12	56	29	0	47	36	37	34	154	*91*	59	13	68	37	2	47	35	53	44	179
Kirkhill	28	2	21	12	1	19	23	13	9	64	*93*	29	2	15	17	2	15	24	19	7	65
Laggan	14	0	9	18	0	10	12	8	11	41	*91*	7	2	7	5	1	10	2	6	4	22
Moy and Dalarossie ...	19	1	25	12	1	17	24	7	10	58	*91*	26	3	22	12	2	24	21	6	14	65
North Uist	47	10	44	51	6	48	37	34	39	158	*107*	39	13	35	23	8	39	31	20	28	118
Petty	29	8	40	22	1	10	34	43	13	100	*89*	25	8	28	11	1	16	27	19	11	73
Portree	53	11	96	74	4	67	76	47	48	238	*99*	72	6	84	88	6	82	70	47	57	256
Sleat	23	2	44	31	4	11	37	36	20	104	*99*	23	1	18	29	1	11	24	19	18	72
Small Isles	5	1	10	7	0	2	4	14	3	23	*100*	13	1	8	3	4	4	5	9	11	29
Snizort	21	3	13	19	0	19	17	11	9	56	*99*	22	1	13	15	1	19	14	10	9	52
South Uist	78	2	62	37	1	37	56	66	21	180	*107*	35	12	57	34	3	41	36	37	27	141
Stenscholl	17	3	49	19	0	6	31	31	20	88	*99*	6	1	35	21	0	3	16	23	21	63
Strath	18	13	44	43	1	19	40	28	32	119	*99*	24	4	38	30	1	17	28	26	26	97
Urquhart&Glenmoriston	30	7	56	25	0	55	36	18	9	118	*94*	32	16	28	38	1	46	24	24	21	115
Totals	1293	257	1889	1389	93	938	1474	1454	1055	4921	—	1283	215	1630	1330	119	936	1387	1216	1038	4577

KINCARDINE.

Arbuthnot	17	4	15	20	0	0	7	35	14	56	*74*	14	1	21	13	1	2	11	29	8	50
Banchory, Devenick ...	55	8	61	36	0	18	55	47	40	160	*74*	43	9	61	32	0	21	52	39	33	145
„ Ternan ...	52	20	112	73	0	61	72	67	57	257	*79*	60	11	58	54	3	36	55	51	44	186
Benholm	54	3	39	25	1	16	50	37	19	122	*72*	57	4	54	40	3	26	53	47	32	158
Bervie	48	14	113	71	0	21	112	49	64	246	*72*	81	14	111	51	5	54	96	32	80	262
Dunnottar	61	6	99	104	7	27	114	84	52	277	*74*	100	16	83	84	4	41	97	109	40	287
Durris	2	1	14	2	0	3	7	5	4	19	*79*	28	2	29	6	0	10	34	8	13	65
Fettercairn	23	3	41	36	3	12	32	40	22	106	*73*	27	3	43	27	1	19	52	17	13	101
Fetteresso & Rickarton	97	26	152	117	4	68	112	128	88	396	*74*	131	36	147	101	6	74	154	105	88	421
Fordoun	39	5	78	43	0	15	54	57	39	165	*75*	39	7	53	26	1	17	41	45	23	126
Garvock	9	0	6	8	0	0	10	7	6	23	*72*	4	0	8	4	0	0	8	4	4	16
Glenbervie	3	1	36	8	0	5	11	27	5	48	*75*	8	2	43	9	0	5	22	27	8	62
Kinneff & Catterline ...	17	7	25	30	2	11	26	27	17	81	*74*	31	2	24	13	2	8	17	33	14	72
Laurencekirk	65	17	95	29	6	22	83	63	44	212	*73*	65	13	72	35	7	22	65	60	45	192
Maryculter	19	11	38	11	1	21	22	19	18	80	*74*	28	6	21	8	0	24	5	21	13	63
Marykirk	19	3	17	23	0	14	12	26	10	62	*73*	23	3	8	18	1	16	12	16	9	53
Nigg	30	4	57	28	0	26	41	25	27	119	*74*	28	9	43	43	0	16	56	29	22	123
St Cyrus	20	7	26	65	2	2	35	62	21	120	*72*	18	7	33	66	1	3	29	70	23	125
Strachan	17	1	26	10	0	18	15	17	4	54	*79*	12	1	17	10	1	19	7	10	5	41
Totals	647	141	1050	739	26	360	870	822	551	2603	—	797	146	929	640	36	413	866	752	517	2548

KINROSS.

Cleish	13	0	6	8	0	4	8	7	8	27	*57*	10	2	13	10	0	5	4	9	17	35
Fossoway & Tullicbole	12	5	36	22	4	12	23	26	18	79	*57*	23	5	21	11	4	9	19	24	12	64
Kinross	46	12	109	47	1	22	64	86	43	215	*57*	70	6	92	50	1	21	84	76	38	219
Orwell	39	7	81	25	0	23	45	51	33	152	*57*	44	6	72	27	0	27	39	54	29	149
Portmoak	15	2	36	16	0	5	28	27	9	69	*57*	12	7	25	15	0	3	26	16	14	59
Totals	125	26	268	118	5	66	168	197	111	542	—	159	26	223	113	5	65	172	179	110	526

KIRKCUDBRIGHT.

Anworth	18	5	25	21	0	16	21	24	8	69	*34*	16	3	24	20	2	9	25	25	6	65
Balmaclellan	4	1	22	10	0	2	15	13	7	37	*34*	3	0	19	7	0	4	10	9	6	29
Balmaghie	19	4	20	20	0	1	28	21	13	63	*34*	15	2	23	17	0	2	26	18	11	57
Bargrennan	11	0	10	13	0	12	6	12	4	34	*34*	14	0	3	8	0	12	4	9	0	25
Borgue	19	9	54	32	0	36	22	31	25	114	*34*	26	3	36	20	2	21	25	27	14	87
Buittle	9	5	22	16	1	1	18	23	11	53	*34*	16	5	22	13	0	4	18	21	13	56

TABLE XV.—(*continued*).

County and Parish Data.

KIRKCUDBRIGHT.—(*continued*).

Parish	BOYS Hair					BOYS Eyes				BOYS Totals	District	GIRLS Hair					GIRLS Eyes				GIRLS Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Carsphairn	2	0	14	0	1	4	1	10	2	17	*36*	7	1	12	8	0	2	7	13	6	28
Colvend and Southwick	36	5	40	22	0	20	42	25	16	103	*34*	38	5	34	27	3	25	33	34	15	107
Corsock	2	2	5	10	1	3	4	8	5	20	*34*	3	1	9	6	0	3	2	8	6	19
Crossmichael	5	6	17	9	0	2	18	13	4	37	*34*	12	0	15	5	0	0	14	15	3	32
Dalry	3	0	56	13	0	2	36	23	11	72	*36*	12	2	47	12	0	2	36	18	17	73
Girthon	10	1	11	16	0	13	4	8	13	38	*34*	15	4	26	5	0	12	10	18	10	50
Irongray	4	1	7	1	0	4	6	2	1	13	*36*	3	1	5	4	0	2	2	4	5	13
Kells	21	6	27	32	0	18	25	19	24	86	*34*	22	4	27	23	2	14	26	13	25	78
Kelton	84	18	181	97	1	66	131	111	73	381	*34*	106	13	149	77	0	58	133	87	67	345
Kirkbean	17	5	32	27	0	4	28	28	21	81	*34*	10	5	20	23	0	1	29	12	16	58
Kirkcudbright ...	54	14	122	83	2	15	85	93	82	275	*34*	71	20	116	70	4	12	95	94	80	281
Kirkgunzeon	11	3	12	10	2	22	2	6	8	38	*34*	13	2	10	12	1	23	2	8	5	38
Kirkmabreck	22	18	83	37	1	15	48	66	32	161	*34*	31	5	51	40	0	11	49	50	17	127
Kirkpatrick Durham ...	9	0	21	18	0	0	18	21	9	48	*34*	11	5	28	15	0	1	21	28	9	59
Lochrutton	14	1	13	11	1	17	6	10	7	40	*36*	14	0	9	11	2	12	9	8	7	36
Minnigaff	2	3	22	49	0	11	19	21	25	76	*33*	4	1	18	26	0	10	9	10	20	49
New Abbey	34	10	37	29	0	33	19	18	40	110	*34*	28	7	27	23	3	29	25	9	25	88
Parton	9	1	10	8	1	7	6	10	6	29	*34*	8	3	9	4	0	3	7	13	1	24
Rerrick	31	4	67	28	2	39	46	25	22	132	*34*	23	4	43	30	1	23	35	24	19	101
Terregles	6	1	9	2	0	9	2	2	5	18	*36*	4	2	7	4	2	3	5	6	5	19
Tongland	12	1	17	13	1	6	16	12	10	44	*34*	8	1	14	4	0	2	9	11	5	27
Troqueer	80	16	100	78	6	35	79	105	61	280	*36*	99	13	90	60	2	24	95	88	57	264
Twynholm	21	4	21	20	0	13	20	22	11	66	*34*	17	4	21	15	0	13	17	19	8	57
Urr	143	32	186	140	10	58	185	141	127	511	*34*	134	15	149	133	12	53	162	116	112	443
Totals	712	176	1263	865	30	484	956	923	683	3046	—	783	131	1063	722	36	390	940	815	590	2735
LANARK.																					
Airdrie	619	109	921	490	20	217	779	716	447	2159	*9*	570	91	846	507	18	241	726	582	483	2032
Avondale	150	32	176	94	8	40	141	185	94	460	*1*	79	13	99	58	0	37	87	86	39	249
Biggar	50	4	97	35	0	6	65	77	38	186	*1*	55	14	56	54	1	3	65	63	49	180
Blantyre	261	61	425	226	16	145	310	356	178	989	*15*	226	41	351	204	8	126	242	271	191	830

Bothwell	536	103	855	557	24	258	611	781	425	2075	7	551	110	779	470	15	254	562	681	428	1925
Cadder	157	36	246	117	2	69	179	203	107	558	12	183	26	191	112	3	82	179	162	92	515
Calderhead	235	54	322	176	9	88	334	248	126	796	8	248	45	331	156	13	124	277	260	132	793
Cambuslang	99	41	347	128	2	23	226	243	125	617	15	100	41	342	119	3	19	231	236	119	605
Cambusnethan ...	391	66	668	442	22	240	508	478	363	1589	4	412	89	667	416	19	307	419	496	381	1603
Carluke	138	33	293	193	6	52	206	268	137	663	3	174	36	255	180	3	55	196	273	124	648
Carmichael	1	1	23	3	0	0	4	20	4	28	1	3	2	21	4	0	0	8	19	3	30
Carmunnock	25	3	8	10	0	0	19	21	6	46	14	31	2	7	17	0	0	22	23	12	57
Carnwath	123	23	126	88	3	60	102	121	80	363	2	122	18	120	73	1	62	113	91	68	334
Carstairs	62	11	70	33	1	53	42	32	50	177	2	54	5	77	30	1	48	40	36	43	167
Clarkston	146	18	142	149	9	76	133	151	104	464	9	72	11	110	100	5	47	83	95	73	298
Covington&Thankerton	7	0	10	7	0	0	4	14	6	24	1	4	1	16	4	0	0	7	9	9	25
Crawford	21	1	17	29	2	17	15	18	20	70	1	16	1	13	12	0	7	12	12	11	42
Crawfordjohn	8	2	4	22	0	11	4	8	13	36	1	14	1	7	10	0	7	4	10	11	32
Culter	3	1	21	8	2	1	7	20	7	35	1	7	0	15	8	0	1	9	19	1	30
Dalziel	931	214	1547	904	50	369	1171	1294	812	3646	6	978	165	1384	794	30	366	1129	1126	730	3351
Dolphinton	6	2	10	8	0	7	4	8	7	26	2	10	1	10	9	0	4	4	11	11	30
Douglas	46	11	65	59	12	27	52	70	44	193	1	74	10	58	56	6	42	42	77	43	204
,, Water ...	38	22	60	44	0	5	84	39	36	164	1	36	11	43	55	0	4	71	32	38	145
Dunsyre	5	1	13	1	0	1	6	10	3	20	2	6	3	10	0	0	1	5	9	4	19
East Kilbride	40	16	152	47	4	14	69	111	65	259	3	48	20	81	44	2	19	54	76	46	195
Glassford	33	7	36	47	0	11	37	44	31	123	3	49	5	33	30	3	11	47	46	16	120
Glasgow (Burgh) ...	6609	1597	13520	7798	346	3313	9131	10151	7275	29870	13	6125	1387	12447	8244	370	3423	8503	9651	6996	28573
Govan	1986	490	4355	2290	116	1351	2788	2920	2178	9237	13	1921	454	4065	2346	99	1253	2752	2747	2133	8885
Hamilton (Burgh) ...	457	79	716	407	31	249	504	575	362	1690	5	473	83	624	371	22	239	452	525	357	1573
,, (Landward)	506	95	678	476	22	195	580	603	399	1777	5	530	94	605	448	15	192	577	531	392	1692
Lanark (Burgh) ...	121	40	228	100	1	125	74	157	134	490	2	130	35	207	80	2	92	101	119	142	454
,, (Landward) ...	130	32	100	72	16	112	73	68	97	350	2	127	20	95	77	12	71	122	49	89	331
Larkhall	269	70	584	208	15	228	306	381	231	1146	3	308	49	535	231	11	232	324	365	213	1134
Lesmahagow	253	45	361	185	12	174	209	237	236	856	1	246	44	336	180	7	168	199	254	192	813
Libberton	13	0	1	1	1	16	0	0	0	16	2	5	1	0	6	0	7	0	3	2	12
Maryhill	566	140	1124	570	19	300	760	816	543	2419	13	602	111	1017	561	15	301	727	736	542	2306
New Monkland ...	119	18	236	73	2	75	123	169	81	448	10	199	25	219	90	3	95	168	161	112	536
Old Monkland ...	572	131	1338	687	31	354	780	1038	587	2759	11	666	152	1164	685	22	334	758	958	639	2689
Pettinain	4	2	9	5	0	4	4	5	7	20	2	5	0	6	5	0	4	2	7	3	16
Rutherglen	325	68	557	414	15	213	420	390	356	1379	14	337	51	535	403	2	224	385	378	341	1328
Shettleston	265	59	488	249	13	120	354	359	241	1074	11	231	44	351	214	15	85	257	324	189	855
Shotts	25	6	43	29	4	21	27	30	29	107	8	45	6	44	40	0	52	16	35	32	135
Springburn	36	34	234	177	1	6	132	208	136	482	12	34	27	152	179	2	15	111	154	114	394
Stonehouse	53	10	88	60	0	40	42	77	52	211	3	49	8	110	37	1	31	54	71	49	205
Wandell & Lamington	10	0	7	6	0	0	4	16	3	23	1	10	0	10	3	0	0	7	14	2	23
Wiston and Roberton	5	0	8	12	0	0	5	15	5	25	1	0	0	3	7	0	0	1	5	4	10
Totals	16455	3788	31329	17736	837	8686	21428	23751	16280	70145	—	16165	3353	28447	17729	729	8685	20150	21888	15700	66423

TABLE XV.—(*continued*).

County and Parish Data.

LINLITHGOW.

Parish	BOYS HAIR Fair	Red	Medium	Dark	Jet Black	BOYS EYES Blue	Light	Medium	Dark	BOYS Totals	District	GIRLS HAIR Fair	Red	Medium	Dark	Jet Black	GIRLS EYES Blue	Light	Medium	Dark	GIRLS Totals
Abercorn	23	2	40	20	0	25	18	27	15	85	*48*	26	7	23	17	0	18	17	25	13	73
Bathgate (Burgh) ...	226	54	376	161	12	226	204	218	181	829	*49*	234	34	325	174	4	160	236	211	164	771
„ (Landward)	28	4	22	2	0	15	14	11	16	56	*49*	22	2	14	7	0	16	5	10	14	45
Bo'ness and Carriden	266	90	618	301	21	169	389	444	294	1296	*48*	330	86	526	317	15	209	359	395	311	1274
Dalmeny	46	6	40	24	1	2	52	47	16	117	*48*	52	4	39	18	0	0	59	32	22	113
Ecclesmachan	9	0	15	2	0	6	3	6	11	26	*48*	9	0	5	6	0	11	0	1	8	20
Kirkliston	93	19	147	91	10	72	101	102	85	360	*48*	115	9	112	100	2	77	84	102	75	338
Linlithgow	83	24	139	84	4	21	140	89	84	334	*48*	90	24	144	78	3	23	127	122	67	339
Livingstone	92	11	106	60	2	41	97	92	41	271	*48*	94	12	88	57	1	47	77	80	48	252
Torphichen	79	8	93	45	0	34	59	87	45	225	*49*	79	6	78	50	1	46	61	51	56	214
Uphall	210	67	472	194	4	59	340	396	152	947	*48*	227	44	407	192	3	55	282	373	163	873
Whitburn	144	26	210	110	4	48	208	145	93	494	*49*	181	24	155	87	9	59	191	108	98	456
Totals	1299	311	2278	1094	58	718	1625	1664	1033	5040	—	1459	252	1916	1103	38	721	1498	1510	1039	4768

NAIRN.

Ardclach	7	1	12	11	0	7	12	11	1	31	*90*	17	3	6	11	0	8	9	13	7	37
Auldearn	31	5	44	31	3	30	39	18	27	114	*89*	24	7	29	23	1	22	28	18	16	84
Cawdor	23	4	39	22	0	3	31	33	21	88	*89*	22	3	32	21	1	10	22	29	18	79
Nairn (Burgh) ...	55	7	92	16	1	19	36	90	26	171	*89*	55	10	90	41	1	36	39	88	34	197
„ (Landward) ...	20	8	45	17	0	17	53	14	6	90	*89*	35	7	27	17	0	20	39	25	2	86
Totals	136	25	232	97	4	76	171	166	81	494	—	153	30	184	113	3	96	137	173	77	483

ORKNEY.

Cross and Burness ...	24	3	19	18	0	19	13	24	8	64	*109*	24	2	19	14	0	22	12	22	3	59
Eday	8	0	10	11	0	0	13	11	5	29	*109*	14	0	6	4	0	0	14	8	2	24
Evie and Rendall ...	10	1	5	10	0	5	12	5	4	26	*109*	12	5	7	11	0	11	9	13	2	35
Firth and Stennis ...	36	4	44	29	6	16	35	47	21	119	*109*	22	7	28	33	5	7	24	40	24	95
Harray and Birsay ...	17	2	44	23	1	9	22	41	15	87	*109*	32	4	43	16	0	6	40	32	17	95
Holm	26	6	24	11	1	27	13	16	12	68	*109*	30	6	16	6	2	30	11	12	7	60
Hoy and Graemsay ...	16	4	23	6	1	19	14	10	7	50	*109*	12	1	10	8	0	13	9	3	6	31
Kirkwall (Burgh) ...	90	18	169	76	7	44	116	145	55	360	*109*	81	12	146	65	2	47	114	83	62	306
„ (Landward)	0	0	2	2	0	0	2	2	0	4	*109*	2	1	0	1	0	0	2	2	0	4
Lady	24	2	27	22	1	1	20	40	15	76	*109*	13	4	22	26	0	0	19	31	15	65
Orphir	38	1	25	19	0	10	33	30	10	83	*109*	49	5	13	16	0	10	37	29	7	83
Rousay and Egilshay ...	9	4	18	27	0	28	3	8	19	58	*109*	14	3	18	14	1	14	9	9	18	50
St Andrews & Deerness	25	2	23	27	1	16	15	35	12	78	*109*	32	2	27	9	0	17	18	27	8	70
Sandwick	13	3	13	18	0	2	7	19	19	47	*109*	9	3	8	13	0	4	3	13	13	33
Shapinsay	9	4	26	13	0	4	22	25	1	52	*109*	12	1	24	6	0	8	16	17	2	43
South Ronaldshay and Burray	33	21	115	44	3	39	85	57	35	216	*109*	61	11	81	41	4	47	69	57	25	198
Stromness	48	17	85	47	3	13	79	62	46	200	*109*	46	14	74	40	4	22	51	60	45	178
Stronsay	41	3	42	10	0	16	38	34	8	96	*109*	31	1	43	14	0	12	21	42	14	89
Walls and Flotta ...	42	4	41	19	3	24	31	34	20	109	*109*	30	3	28	30	3	15	26	35	18	94
Westray and Papa Westray	56	2	64	64	0	61	42	46	37	186	*109*	47	2	59	38	0	36	32	42	36	146
Totals	565	101	819	496	27	353	615	691	349	2008	—	573	87	672	405	21	321	536	577	324	1758

SHETLAND.

Bressay	8	2	34	6	0	5	18	15	12	50	*110*	14	4	20	10	0	3	27	10	8	48
Delting	26	5	37	20	2	45	24	10	11	90	*110*	23	3	23	20	7	28	30	7	11	76
Dunrossness	32	14	42	27	0	29	22	46	18	115	*110*	50	9	38	21	0	33	22	48	15	118
Fetlar	8	1	14	1	0	7	3	4	10	24	*110*	12	2	6	1	0	6	6	1	8	21
Lerwick	107	26	197	109	4	103	76	165	99	443	*110*	110	18	157	84	3	82	60	137	93	372
Nesting, Lunnasting, Whalsay & Skerries	36	5	29	24	6	23	33	17	27	100	*110*	44	2	30	16	3	22	20	25	28	95
Northmavine	33	6	35	22	1	22	34	18	23	97	*110*	20	6	23	9	0	11	21	8	18	58
Sandsting & Aithsting	31	5	26	41	0	26	34	23	20	103	*110*	11	5	13	30	0	17	21	14	7	59
Tingwall, Whiteness & Weisdale	21	13	53	35	3	36	27	35	27	125	*110*	34	6	37	18	1	24	17	24	31	96
Unst	29	10	27	33	2	31	22	21	27	101	*110*	25	5	22	19	2	29	16	12	16	73
Walls, Sandness, Papa and Foula	18	2	21	15	0	11	27	7	11	56	*110*	20	0	9	19	0	9	24	7	8	48
Yell	22	2	25	13	3	16	9	21	19	65	*110*	15	4	30	14	2	20	8	17	20	65
Totals	371	91	540	346	21	354	329	382	304	1369	—	378	64	408	261	18	284	272	310	263	1129

TABLE XV.—(*continued*).

County and Parish Data.

PEEBLES.

Parish	BOYS Hair					BOYS Eyes				BOYS Totals	District	GIRLS Hair					GIRLS Eyes				GIRLS Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Drumelzier	2	3	4	1	0	0	1	5	4	10	*41*	2	2	12	1	0	0	4	8	5	17
Innerleithen	80	12	144	53	6	43	70	102	80	295	*41*	85	15	132	81	6	37	74	111	97	319
Kilbucho, Broughton and Glenholm	8	2	7	10	1	10	10	3	5	28	*41*	11	0	19	10	0	8	19	9	4	40
Newlands	12	2	22	19	2	7	23	18	9	57	*41*	12	1	25	13	0	11	13	21	6	51
Peebles	76	30	234	72	1	13	187	145	68	413	*41*	88	19	205	76	2	22	163	143	62	390
Stobo	0	2	12	5	1	10	7	3	0	20	*41*	4	0	12	6	0	12	2	6	2	22
Traquair	11	6	31	11	0	2	17	26	14	59	*41*	15	3	28	9	0	2	26	17	10	55
Tweedsmuir	5	1	14	11	0	5	7	6	13	31	*41*	7	2	11	6	0	7	5	8	6	26
West Linton	20	2	34	16	0	31	8	18	15	72	*41*	20	7	22	15	0	21	9	15	19	64
Totals	214	60	502	198	11	121	330	326	208	985	—	244	49	466	217	8	120	315	338	211	984

PERTH.

Abernethy	24	4	44	11	0	15	19	33	16	83	*58*	23	6	21	14	1	9	22	22	12	65
Abernyte	11	6	10	17	0	1	16	21	6	44	*68*	8	1	16	12	0	3	15	13	6	37
Alyth	71	9	101	41	1	44	75	57	47	223	*70*	55	11	73	49	3	45	66	47	33	191
Amulree	7	1	5	11	1	3	18	2	2	25	*71*	6	0	8	6	1	1	8	9	3	21
Ardoch	9	1	19	10	0	2	26	8	3	39	*59*	9	2	10	9	0	1	17	12	0	30
Arngask	2	4	26	17	0	1	16	16	16	49	*58*	5	3	29	22	0	2	12	27	18	59
Auchterarder	66	9	83	70	3	25	83	75	48	231	*58*	58	10	114	78	5	28	73	98	66	265
Auchtergaven	46	7	60	51	5	25	60	44	40	169	*71*	54	11	67	50	4	21	80	41	44	186
Balquhidder	18	2	30	21	1	27	10	15	20	72	*59*	16	1	22	20	4	28	10	9	16	63
Blaekford	32	10	39	37	2	7	57	34	22	120	*59*	36	7	44	33	1	12	52	28	29	121
Blair Atholl	31	6	45	41	1	11	35	50	28	124	*76*	37	5	34	25	0	9	33	42	17	101
Blairgowrie	141	16	88	83	17	72	38	123	112	345	*70*	129	19	55	83	10	71	31	91	103	296
Blairingone	12	4	6	12	1	12	3	10	10	35	*57*	16	3	14	13	0	14	9	13	10	46
Callander	46	3	22	35	10	18	37	30	31	116	*59*	25	4	34	32	11	10	31	37	28	106
Caputh	29	3	30	23	2	10	34	25	18	87	*71*	22	4	18	19	3	12	26	19	9	66
Cargill	39	9	41	26	0	35	22	35	23	115	*70*	47	6	27	30	0	30	25	33	22	110
Clunie	10	4	23	7	0	15	18	3	8	44	*70*	16	6	8	10	0	18	12	1	9	40
Collaee	16	3	29	20	1	3	20	21	25	69	*70*	11	3	19	10	2	9	17	10	9	45
Comrie	26	12	76	41	2	30	55	40	32	157	*58*	41	8	52	60	2	34	56	51	22	163
Coupar Angus ...	79	7	90	56	5	46	62	69	60	237	*68*	80	14	81	63	3	24	61	87	69	241

Crieff	94	14	164	98	7	64	106	134	73	377	*58*	112	16	139	72	4	61	104	107	71	343
Dron	6	1	4	3	0	0	4	8	2	14	*58*	8	2	2	3	0	1	6	7	1	15
Dull	33	8	84	88	10	29	68	55	71	223	*71*	60	8	72	81	2	43	52	69	59	223
Dunblane and Lecropt	56	16	127	58	4	49	67	90	55	261	*59*	63	11	115	67	2	42	87	85	44	258
Dunkeld and Dowally	28	7	51	26	2	19	26	40	29	114	*71*	32	5	44	24	1	15	26	41	24	106
Dunning	17	6	52	27	1	18	38	30	17	103	*58*	17	7	49	11	1	28	19	29	9	85
Errol	44	7	66	48	3	63	28	30	47	168	*68*	56	2	58	48	4	55	29	34	50	168
Findo-Gask	5	0	10	9	0	0	6	8	10	24	*58*	5	2	14	8	0	2	10	6	11	29
Forgandenny	15	0	8	2	0	5	14	6	0	25	*58*	11	3	14	1	0	3	19	7	0	29
Forteviot	5	3	27	14	0	1	13	31	4	49	*58*	16	2	18	13	0	0	19	21	9	49
Fortingall	9	4	15	10	1	7	17	7	8	39	*71*	9	4	14	3	0	13	11	1	5	30
Fowlis Wester ...	15	7	18	12	1	20	13	6	14	53	*71*	12	3	12	6	1	14	6	9	5	34
Gartmore	15	0	15	25	2	7	21	22	7	57	*59*	16	1	6	12	1	7	11	7	11	36
Glendevon	7	0	4	2	0	3	9	0	1	13	*57*	6	0	3	5	3	5	8	0	4	17
Inchture	11	5	24	13	0	7	8	17	21	53	*68*	10	5	20	17	0	13	7	17	15	52
Kenmore	35	0	35	23	3	22	27	23	24	96	*71*	32	4	25	24	0	14	31	21	19	85
Killin	35	1	38	16	3	13	51	21	8	93	*71*	23	3	31	32	0	16	41	18	14	89
Kilmadock	50	6	65	31	2	17	60	43	34	154	*59*	59	9	68	51	6	15	78	61	39	193
Kilspindie	14	8	15	2	3	5	24	1	12	42	*68*	16	2	21	0	2	1	25	0	15	41
Kincardine	13	4	56	32	1	16	34	38	18	106	*59*	22	6	55	22	0	15	48	27	15	105
Kinclaven	4	0	3	5	0	0	6	2	4	12	*70*	8	2	8	2	0	0	13	4	3	20
Kinfauns	13	2	17	11	1	6	9	21	8	44	*68*	13	1	13	4	0	7	2	16	6	31
Kinloch-Rannoch ...	3	1	11	3	3	9	1	7	4	21	*76*	8	0	7	2	2	7	0	6	6	19
Kinnaird	11	1	2	8	0	1	4	8	9	22	*68*	9	0	7	4	2	0	6	7	9	22
Kirkmichael	2	0	4	6	0	4	0	3	5	12	*76*	1	0	9	4	0	5	3	2	4	14
Lethendy and Kinloch	7	1	16	7	0	8	12	3	8	31	*70*	6	1	12	3	0	7	6	1	8	22
Little Dunkeld ...	22	2	24	12	0	11	28	15	6	60	*71*	11	0	33	7	1	3	29	14	6	52
Logie Almond ...	8	4	36	14	4	23	12	23	8	66	*71*	7	3	22	18	5	17	7	21	10	55
Logierait	33	3	22	12	0	10	27	21	12	70	*71*	31	2	12	9	1	10	21	18	6	55
Longforgan	18	1	24	13	0	11	18	18	9	56	*68*	16	7	19	13	0	6	9	20	20	55
Maderty	13	4	3	3	0	0	4	17	2	23	*58*	20	1	1	7	0	0	7	12	10	29
Meigle	29	4	39	20	6	26	29	27	16	98	*68*	27	5	29	15	5	23	20	17	21	81
Methven	28	6	37	25	2	6	42	31	19	98	*71*	23	4	43	40	2	9	50	27	26	112
Moulin	7	0	5	0	2	9	2	1	2	14	*76*	7	3	1	6	0	9	3	2	3	17
Muckart	11	3	14	4	2	2	21	6	5	34	*51*	9	3	12	1	0	4	10	10	1	25
Muthill	5	8	50	18	1	15	28	29	10	82	*58*	8	11	42	22	3	7	43	21	15	86
Persie	5	1	23	9	3	9	19	1	12	41	*70*	6	0	12	3	4	8	9	1	7	25
Perth (Burgh)	628	106	1019	558	18	275	697	793	564	2329	*69*	624	108	951	516	14	287	630	781	515	2213
„ E. Parish (Land.)	17	3	23	21	2	3	13	27	23	66	*69*	19	5	37	23	0	9	27	26	22	84
Port of Monteith ...	1	0	13	1	0	4	3	7	1	15	*59*	6	0	16	2	0	2	10	9	3	24
Redgorton	9	2	6	14	3	0	12	14	8	34	*70*	13	3	8	10	11	0	21	11	13	45
Rhynd	1	2	11	2	0	4	4	6	2	16	*58*	5	2	5	6	0	1	4	7	6	18
St Martin's	14	1	15	10	0	13	11	9	7	40	*70*	21	2	16	7	0	9	14	11	12	46
Scone	37	15	76	61	1	26	50	77	37	190	*70*	45	8	59	49	0	24	37	57	43	161
Tenandry	5	1	9	5	1	2	7	8	4	21	*76*	4	2	13	13	0	2	12	15	3	32
Tibbermore	5	1	7	18	0	6	13	4	8	31	*70*	3	1	9	12	0	6	5	8	6	25
Trinity Gask	4	1	2	10	1	9	0	1	8	18	*58*	7	0	5	8	0	10	0	1	9	20
Trossachs	9	4	15	8	0	23	4	2	7	36	*59*	7	0	7	7	3	12	1	0	11	24
Weem	1	0	15	5	0	1	12	4	4	21	*71*	3	1	10	2	0	2	9	3	2	16
Totals	2172	394	3286	2052	145	1283	2426	2506	1834	8049	—	2246	394	2944	1953	130	1230	2301	2385	1751	7667

TABLE XV.—(*continued*).

County and Parish Data.

RENFREW

Parish	BOYS										District	GIRLS									
	Hair					Eyes				Totals		Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Catheart	300	83	657	358	12	203	398	481	328	1410	*14*	333	61	624	335	21	197	442	437	298	1374
Eastwood	246	55	375	270	5	195	239	311	206	951	*16*	230	36	320	249	6	88	251	311	191	841
Erskine	35	1	39	28	3	42	23	20	21	106	*21*	30	4	31	26	4	37	21	13	24	95
Greenock (Burgh) ...	760	198	1749	946	47	546	1073	1205	876	3700	*24*	762	178	1569	984	32	504	1039	1177	805	3525
„ and Port Glasgow	68	7	76	45	0	29	88	52	27	196	*21*	45	16	89	34	3	40	64	43	40	187
Houston and Killallan	29	6	54	30	2	6	42	40	33	121	*17*	39	6	35	18	3	15	32	36	18	101
Inverkip	6	1	33	14	0	3	11	29	11	54	*23*	8	1	16	17	0	3	13	14	12	42
Kilbarchan	70	16	154	106	3	41	144	87	77	349	*17*	78	20	136	115	0	34	123	105	87	349
Kilmaleolm	49	14	103	43	0	10	75	82	42	209	*21*	49	5	65	41	0	24	47	63	26	160
Levern	29	7	75	37	1	1	33	91	24	149	*16*	30	1	50	35	5	0	30	66	25	121
Lochwinnoch	51	17	118	45	2	22	69	91	51	233	*17*	58	11	132	77	0	27	75	118	58	278
Mearns	85	17	119	67	1	46	90	89	64	289	*16*	101	14	98	73	1	39	100	85	63	287
Neilston	238	48	330	223	12	157	278	267	149	851	*17*	183	32	301	192	13	86	243	236	156	721
Paisley (Burgh) ...	626	128	1069	550	62	417	659	783	576	2435	*18*	575	121	977	605	56	435	636	705	558	2334
„ (Landward) ...	79	9	81	56	3	18	88	65	57	228	*20*	83	8	90	60	5	11	90	64	81	246
Port Glasgow (Burgh)	130	28	279	128	13	83	136	231	128	578	*21*	107	16	240	134	5	67	103	210	122	502
Renfrew (Landward) ...	159	45	327	181	10	61	236	275	150	722	*19*	153	44	322	192	15	51	223	262	190	726
Totals	2960	680	5638	3127	176	1880	3682	4199	2820	12581	—	2864	574	5095	3187	169	1658	3532	3945	2754	11889

ROSS AND CROMARTY.

Alness	1	3	6	2	0	3	8	1	0	12	*93*	2	2	4	0	0	0	3	5	0	8
Applecross	36	11	51	20	11	22	51	33	23	129	*99*	41	11	35	29	1	19	48	36	14	117
Avoch	47	7	43	35	0	47	16	42	27	132	*93*	57	3	64	22	0	47	23	39	37	146
Barvas	91	5	87	41	7	56	79	34	62	231	*108*	80	7	87	49	6	57	75	39	58	229
Carnoch	2	0	3	4	0	0	4	5	0	9	*93*	6	0	3	5	0	2	7	4	1	14
Contin	0	0	5	1	0	1	1	3	1	6	*93*	1	0	4	2	0	1	2	2	2	7
Cromarty	1	0	10	8	0	1	7	10	1	19	*93*	5	0	23	0	0	2	18	7	1	28
Dingwall	93	18	95	91	6	60	101	73	69	303	*93*	96	16	86	89	13	60	89	80	71	300
Fearn	31	5	35	51	2	2	50	50	22	124	*95*	31	4	44	47	2	1	46	48	33	128
Fodderty	32	5	62	37	0	26	49	41	20	136	*93*	34	7	60	30	1	24	34	54	20	132

Gairloch	56	11	100	90	8	51	103	73	38	265	*99*	63	12	90	60	9	42	89	58	45	234
Glenshiel	6	0	6	6	0	1	7	6	4	18	*99*	9	1	10	4	0	1	7	13	3	24
Killearnan	18	0	25	18	1	8	20	22	12	62	*93*	21	2	18	17	2	3	19	25	13	60
Kilmuir Easter ...	35	5	26	11	7	21	30	20	13	84	*95*	37	3	19	20	2	24	27	22	8	81
Kincardine	12	7	13	23	0	8	11	25	11	55	*96*	21	2	18	16	2	14	22	16	7	59
Kinloch Luichart ...	10	0	9	11	0	12	3	9	6	30	*93 & 99*	18	1	5	12	1	16	7	7	7	37
Knockbain	15	4	28	26	5	18	16	22	22	78	*93*	22	1	38	27	2	22	20	24	24	90
Lochalsh	28	9	38	31	4	30	11	44	25	110	*99*	29	2	17	34	1	20	9	32	22	83
Lochbroom	71	21	83	70	4	21	81	92	55	249	*99*	82	15	62	60	4	29	73	79	42	223
Lochcarron	3	2	11	14	0	1	9	14	6	30	*99*	5	3	16	16	2	10	15	7	10	42
Lochs	149	19	142	139	5	85	168	115	86	454	*108*	147	19	117	123	12	86	132	99	101	418
Logie Easter	3	4	16	15	6	25	9	7	3	44	*95*	10	0	9	9	4	20	2	6	4	32
Nigg	19	0	23	20	0	13	9	26	14	62	*93*	19	0	15	21	0	19	9	15	12	55
Resolis	20	2	28	11	0	16	24	20	1	61	*93*	25	0	32	30	6	29	25	34	5	93
Rosemarkie	44	8	62	40	2	27	49	49	.31	156	*93*	52	6	53	35	0	26	60	34	26	146
Rosskeen	24	8	53	43	2	7	55	49	19	130	*95*	45	13	58	43	2	11	65	59	26	161
Stornoway	121	47	324	143	10	104	152	242	147	645	*108*	131	46	275	156	9	97	115	267	138	617
Tain	39	12	71	54	5	30	59	61	31	181	*95*	36	8	56	43	1	19	53	41	31	144
Tarbat	31	5	54	35	1	36	26	42	22	126	*95*	35	2	54	47	1	35	25	41	38	139
Uig	146	19	162	67	9	117	118	103	65	403	*108*	111	17	125	60	9	93	89	91	49	322
Urquhart and Logie Wester	38	10	65	50	2	17	55	47	46	165	*93*	47	8	53	45	0	18	46	46	43	153
Urray	53	9	41	34	0	37	47	41	12	137	*93*	45	10	45	28	0	32	49	39	8	128
Totals	1275	256	1777	1241	97	903	1428	1421	894	4646	—	1363	221	1595	1179	92	879	1303	1369	899	4450

ROXBURGH.

Aucrum	26	4	40	17	0	22	15	19	31	87	*39*	23	2	16	11	0	19	5	11	17	52
Bedrule	3	2	7	6	0	2	6	10	0	18	*39*	2	0	1	1	0	1	1	2	0	4
Bowden	5	6	16	14	1	3	19	9	11	42	*39*	10	4	18	13	2	7	19	7	14	47
Castleton	3	3	15	3	0	0	11	11	2	24	*37*	3	2	7	6	0	3	8	5	2	18
Cavers and Kirkton ...	28	2	43	20	0	7	37	25	24	93	*38*	28	4	30	14	1	3	29	26	19	77
Crailing	2	0	18	3	0	0	15	6	2	23	*39*	8	0	18	3	0	6	18	1	4	29
Eckford	9	1	10	2	0	10	1	11	0	22	*39*	12	0	10	0	0	9	0	11	2	22
Edgerston	2	0	6	5	2	0	3	8	4	15	*39*	3	2	13	8	1	0	2	20	5	27
Ednam	18	4	34	5	2	10	32	12	9	63	*39*	20	3	16	5	2	6	17	7	16	46
Hawick (Burgh) ...	254	50	336	175	11	122	266	270	168	826	*38*	244	41	324	169	8	122	241	231	192	786
„ (Landward) ...	25	6	25	22	1	11	43	7	18	79	*38*	26	6	14	19	2	5	32	14	16	67
Hobkirk	5	5	30	6	0	23	14	5	4	46	*39*	6	0	25	7	0	16	10	10	2	38
Jedburgh	113	30	110	86	4	73	93	69	108	343	*39*	84	21	101	69	2	47	86	64	80	277
„ (Landward) ...	9	4	17	9	0	8	6	16	9	39	*39*	10	0	16	18	1	10	5	25	5	45
Kelso	43	3	73	44	0	33	42	49	39	163	*39*	43	15	51	52	1	42	43	34	43	162
Lilliesleaf	17	4	13	13	3	17	8	10	15	50	*39*	22	2	12	11	4	14	14	12	11	51
Linton	8	1	6	11	1	3	8	13	3	27	*39*	2	2	12	7	0	6	7	2	8	23
Makerstoun	9	0	16	5	0	3	7	8	12	30	*39*	8	1	10	9	2	2	9	8	11	30

TABLE XV.—(*continued*).

County and Parish Data.

ROXBURGH.—(*continued*).

Parish	BOYS Hair					BOYS Eyes				BOYS Totals	District	GIRLS Hair					GIRLS Eyes				GIRLS Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Maxton	4	1	8	14	0	13	2	5	7	27	*39*	8	1	11	5	0	4	10	6	5	25
Melrose	63	20	158	62	3	50	92	97	67	306	*39*	77	17	117	56	5	40	78	91	63	272
Minto	7	0	22	3	0	0	11	11	10	32	*39*	6	1	26	2	0	0	9	18	8	35
Morebattle	22	2	21	7	1	15	16	19	3	53	*39*	16	4	12	8	1	0	16	19	6	41
Oxnam	3	0	6	5	0	1	6	4	3	14	*39*	2	0	4	4	0	0	3	2	5	10
Roberton	15	3	10	13	0	4	16	11	10	41	*38*	10	1	7	9	1	5	7	7	9	28
Roxburgh	11	2	25	22	2	13	6	17	26	62	*39*	22	0	22	15	0	10	19	19	11	59
St Boswell's	10	3	15	17	0	8	11	10	16	45	*39*	13	1	21	9	0	9	10	10	15	44
Smailholm	13	2	12	4	0	7	20	2	2	31	*39*	20	1	11	10	0	0	26	10	6	42
Southdean	9	2	16	14	0	6	11	12	12	41	*39*	14	5	8	14	1	9	13	12	8	42
Sprouston	21	3	17	19	0	22	16	5	17	60	*38*	17	4	12	12	0	17	13	5	10	45
Teviothead	12	0	5	6	1	6	6	5	7	24	*39*	18	2	9	6	1	8	15	4	9	36
Yetholm	25	5	25	7	0	1	24	26	11	62	*39*	23	5	30	15	0	3	25	30	15	73
Totals	794	168	1155	639	32	493	863	782	650	2788	—	800	147	984	587	35	423	790	723	617	2553

SELKIRK.

Ashkirk	13	0	13	5	0	6	9	9	7	31	*38*	7	1	7	4	0	4	7	3	5	19
Caddonfoot	15	2	15	15	0	25	6	9	7	47	*40*	15	2	6	12	0	11	8	7	9	35
Ettrick	7	1	6	5	0	1	9	6	3	19	*40*	3	3	10	3	0	0	7	9	3	19
Galashiels (Burgh) ...	200	48	439	137	12	125	179	349	183	836	*40*	216	40	335	110	10	116	178	279	138	711
,, (Landward)	3	0	2	4	0	2	4	2	1	9	*40*	3	2	4	1	1	1	5	2	3	11
Kirkhope	15	3	9	11	2	2	18	7	13	40	*40*	8	1	9	14	0	3	14	5	10	32
Selkirk (Burgh) ...	50	11	85	36	0	47	40	65	30	182	*40*	37	11	98	54	0	40	43	70	47	200
,, (Landward) ...	5	1	7	6	0	10	4	4	1	19	*40*	9	3	8	2	1	13	7	2	1	23
Yarrow...	12	2	15	10	0	5	8	10	16	39	*40*	11	0	7	9	0	4	7	7	9	27
Totals	320	68	591	229	14	223	277	461	261	1222	—	309	63	484	209	12	192	276	384	225	1077

STIRLING.

Airth	31	6	64	31	2	23	38	37	36	134	*61*	50	3	58	24	1	27	31	45	33	136
Baldernock	0	4	9	16	0	4	15	9	1	29	*12*	7	5	17	11	0	6	16	13	5	40
Buchanan	7	2	7	11	2	4	5	5	15	29	*59*	10	0	11	9	1	8	11	5	7	31
Campsie	23	5	43	30	0	1	50	42	8	101	*12*	18	4	51	12	0	1	46	28	10	85
Denny	167	34	361	214	15	141	211	266	173	791	*63*	187	24	326	196	25	136	176	259	187	758
Drymen	18	0	32	31	2	16	14	18	35	83	*59*	16	3	42	25	4	27	25	14	24	90
Dunipace	15	0	9	4	1	5	4	15	5	29	*62*	7	0	7	0	0	1	6	7	0	14
Falkirk (Burgh) ...	262	44	521	303	12	179	331	333	299	1142	*62*	231	43	450	300	9	162	297	314	260	1033
,, (Landward) ...	54	7	66	38	4	33	61	43	32	169	*63*	40	6	60	37	2	20	53	38	34	145
Fintry	9	1	2	18	2	7	9	4	12	32	*59*	8	5	3	6	1	1	10	5	7	23
Gargunnock	28	1	16	14	0	21	20	11	7	59	*59*	12	0	9	4	0	9	12	2	2	25
Grangemouth	307	70	475	326	26	242	326	386	250	1204	*61*	305	57	375	254	13	200	273	305	226	1004
Kilsyth (Town) ...	184	34	344	180	2	73	286	231	154	744	*12*	182	41	348	153	2	42	314	230	140	726
,, (Landward) ...	75	18	54	83	2	63	47	59	63	232	*12*	68	11	74	55	4	53	46	55	58	212
Kippen	6	3	49	13	0	7	24	20	20	71	*59*	24	4	47	10	0	8	32	16	29	85
Larbert	308	79	590	377	18	161	396	533	282	1372	*62*	325	62	567	329	16	179	371	485	264	1299
Logie	26	1	12	10	1	5	24	13	8	50	*59*	20	1	12	13	0	13	15	8	10	46
Muiravonside	133	20	198	120	7	91	134	154	99	478	*61*	155	18	152	116	10	88	147	105	111	451
St Ninians	185	24	157	100	4	98	187	107	78	470	*59*	172	25	147	95	3	96	179	101	66	442
Slamannan	125	33	283	138	2	63	167	251	100	581	*10*	127	23	223	115	0	52	141	193	102	488
Stirling (Burgh) ...	307	78	699	340	23	150	453	502	342	1447	*60*	374	60	695	357	12	165	442	515	376	1498
Strathblane	15	1	23	17	2	12	75	19	12	58	*12*	13	2	27	14	2	16	18	6	18	58
Totals	2285	465	4014	2414	127	1399	2817	3057	2032	9305	—	2351	397	3701	2135	105	1310	2661	2749	1969	8689

SUTHERLAND.

Assynt	19	9	36	14	0	14	30	16	18	78	*96*	41	6	30	17	1	18	37	11	29	95
Clyne	42	6	54	36	3	21	40	37	43	141	*96*	55	4	51	27	1	23	45	28	42	138
Creich	14	12	52	28	2	19	27	31	31	108	*96*	16	8	30	16	3	12	26	15	20	73
Dornoch	47	11	77	51	8	14	63	67	50	194	*95*	43	7	71	46	7	18	32	64	60	174
Durness	16	7	3	12	1	5	16	12	6	39	*96*	13	4	10	12	1	7	13	14	6	40
Eddrachillis	21	4	40	32	1	19	18	41	20	98	*96*	33	3	38	24	1	32	26	23	18	99
Farr	65	14	49	37	0	51	31	51	32	165	*96*	56	15	71	29	1	40	40	60	32	172
Golspie	22	7	50	58	0	7	37	60	33	137	*95*	20	3	59	41	0	3	38	49	33	123
Kildonan	26	6	53	71	0	35	21	56	44	156	*96*	48	5	48	48	0	47	22	39	41	149
Lairg	1	0	5	8	0	5	4	4	1	14	*96*	5	0	1	1	0	2	4	0	1	7
Loth	4	4	14	6	0	6	12	3	7	28	*95*	13	1	10	5	0	9	9	2	9	29
Rogart	24	4	8	25	0	26	11	15	9	61	*96*	36	4	16	13	1	18	22	18	12	70
Tongue	15	7	53	30	2	14	41	25	27	107	*96*	25	1	47	24	0	13	33	21	30	97
Totals	316	91	494	408	17	236	351	418	321	1326	—	404	61	482	303	16	242	347	344	333	1266

TABLE XV.—(*continued.*)

County and Parish Data.

WIGTOWN.

Parish	BOYS										District	GIRLS									
	Hair					Eyes				Totals		Hair					Eyes				Totals
	Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark			Fair	Red	Medium	Dark	Jet Black	Blue	Light	Medium	Dark	
Glasserton	19	5	20	32	1	2	34	24	17	77	*33*	22	1	14	21	0	6	29	13	10	58
Inch	34	13	22	30	1	15	42	30	13	100	*32*	35	4	32	35	0	12	50	22	22	106
Kirkcolm	5	5	20	66	2	25	21	37	15	98	*32*	21	5	13	71	5	34	29	26	26	115
Kirkcowan	33	4	41	27	2	31	23	35	18	107	*33*	44	4	38	24	4	40	25	25	24	114
Kirkinner	23	12	46	52	0	23	34	41	35	133	*33*	41	3	40	27	1	25	37	30	20	112
Kirkmaiden	28	8	43	43	2	24	37	26	37	124	*32*	44	6	50	31	1	32	40	37	23	132
Leswalt	20	9	34	19	1	17	11	29	26	83	*32*	17	6	36	20	6	31	13	14	27	85
Mochrum	9	0	12	15	1	4	23	3	7	37	*33*	10	0	19	15	0	5	20	6	13	44
New Luce	2	3	7	1	0	4	2	5	2	13	*32*	8	1	2	1	0	3	3	6	0	12
Old Luce or Glenluce ...	62	11	102	59	4	73	52	64	49	238	*32*	61	9	74	40	3	54	37	62	34	187
Penninghame	29	11	74	27	5	13	34	66	33	146	*33*	46	14	83	46	3	19	60	65	48	192
Portpatrick	33	3	37	13	0	0	19	62	5	86	*32*	27	7	40	21	0	0	18	70	7	95
Stoneykirk	42	6	36	51	6	23	47	44	27	141	*32*	49	4	41	58	6	44	41	43	30	158
Stranraer (Burgh) ...	137	34	280	87	4	94	162	151	135	542	*32*	144	33	224	117	4	76	180	116	150	522
Whithorn	58	6	85	29	2	21	48	65	46	180	*33*	50	9	105	54	0	25	60	71	62	218
Totals	534	130	859	551	31	369	589	682	465	2105	—	619	106	811	581	33	406	642	606	496	2150

TABLE XVI.

Observers and Schools contributing to the Data of the Pigmentation Survey of School Children in Scotland.*

COUNTY OF ABERDEEN.

Burgh of Aberdeen.—Ashley Road, Mr W. Ross (77); Broomhill, Mr R. A. Watson (77); Causewayend, Mr Rose (77); Commeree St., Mr J. Peter (77); Ferryhill, Mr J. D. Anderson (77); Frederiek St., ? (77); Hanover St., Mr W. D. McLean (77); King Street, Mr. T. Hynd (77); Kittybrewster, Mr J. McKenzie (77); Marywell Street, Mr W. Fyfe (77); Middle, Mr J. C. Barnett (77); Mile End, Mr J. F. Cruiekshank (77); Old Aberdeen, Mr W. B. Duguid (77); Porthill, Mr W. Stewart (77); St Clements Street, Mr D. B. Lothian (77); St Paul Street, Mrs J. S. Skea (77); Skene Square, Mr A. Green (77); Skene Street, ? (77); Westfield, Mr W. Robertson (77); Woodside, Mr J. A. McHardy (77); York Street, Miss Spalding (77); Deaf and Dumb Institution, Mr Alex Pender (77); Normal, U. F. C., ? (77); St Margaret's Mission, Sister Katharine Mary (77); St Peter's, R.C., Mr J. Brady (77); Cathedral, R.C., Mr P. McGrath (77); Gordon's College, Mr C. Stewart (77); Rosemount, Mr J. Findlay (77). Parish of Aberdour—Aberdour, Mr J. Reaieh (83); Auchmedden, Mr W. Swanney (83); Parish of Aboyne and Glen Tanar—Aboyne, Mr J. Cruiekshank (79); Glen Tanar, Mr W. Walker (79); Parish of Alford—Alford Village, Mr D. C. Crabbe (80); Gallowhill, Mr A. McCreadie (80); Parish of Ardallie—Ardallie, ? (82); Ardallie, Female, Miss J. Kemp (82); Parish of Auchterless—Badenseoth, Mr. Geo. Ironside (82); Kirktown, Mr A. Longmore (82); Parish of Belhelvie—Balmedie, Mr C. E. Glennie (78); Craigie, Miss Fraser (78); Menie, Miss Jane Watt (78); Wester Hatton, Mr M. S. Craib (78); Parish of Birse—Birse, Mr G. Innes (78); Finzean, Mr W. Adams (78); Forest, Miss Eva Shaw (78); Parish of Bourtie—Bourtie, Miss Taylor (80); Parish of Cairney—Alehousehilloek, Miss G. Gray (87); Cairney, Mr P. Stuart (87); Ruthven, Mr W. Johnstone (87); Windyraw, Mr A. Middleton (87); Parish of Chapel of Garioch—Chapel, Miss E. J. Fordyce (80); Logie Durno, Mr J. B. Robson (80); Parish of Clatt—Clatt, Mr W. Stewart (80); Parish of Cluny—Cluny, Mr W. Harper (80); Cluny, U. F. C., Miss Deuchars (80); Corennie, Lady Gordon Catheart's, Miss J. A. Ironside (80); Parish of Coull—Coull, Mr A. Howie (79); Parish of Crathie and Braemar—Aberarder, Miss M. Catto (79); Braemar, Mr J. Badenoch (79); Crathie, Mr W. Brown (79); Crathieside, Mr W. Strath (79); Inverey District, Miss S. MacFarlane (79); Inverey, R. C., Miss M. Dallastone (79); Parish of Cruden—Auchiries, Miss M. Campbell (78); Bogbrae, Mr J. C. Coutts (78); Hatton, Mr W. Littlejohn (78); Errol, Epis., Mr Miller (78); Parish of Culsalmond—Tillymorgan, Mr A. J. Wallace (80); Parish of Drumblade—Drumblade, Mr J. Taylor (87); Parish of Drumoak—Drumoak Central, Mr J. R. Littlejohn (79); Glashmore, Miss J. A. McBeth (79); Parish of Dyce—Dyce Overtown, Miss L. R. Mitchell (80); Dyce village, Mr G. Murray (80); Parish of Echt—Cullerley, Miss M. J. Barron (79); Kirkton, Mr R. C. Burnett (78); Waterton, Miss E. Peace (79); Parish of Ellon—Berefold, Mr R. Thomson (82); Drumwhindle, Mr L. Gavin (82); Ellon, Mr D. Cameron (82); Esslemont, Mr A. Cairns (82); Parish of Fintray—Disblair, Miss J. Meldrum (80); Hatton, Mr C. Smith (80); Parish of Forgue—Forgue, Mr R. Wright (87); Largue, Mr J. Gray (87); Forgue Episc., Miss J. B. Duncan (87); Parish of Foveran—Cultereullen, Mr J. Rose (78); Foveran, Mr J. Watson (78); Newburgh Mathers, Mr Williams (78); Parish of Fraserburgh—Fraserburgh, Mr J. A. Sutor (83); Fraserburgh,

* The figures in brackets refer to the Districts, where blanks with a query occur, the names of teachers were not supplied.

Infant, Miss Milne (83); Academy, Elementary Dept., Mr R. Lees (83); Broadsea, Mr J. W. Broome (83); Female Industrial, Miss N. Brown (83); St Peter's Episc., Mr J. Gray (83); Parish of Fyvie—Fyvie, Mr A. Bremner (82); Steinmanhill, Miss J. A. Calder (82); Woodhead, Mr D. Davidson (82); All Saints' Epis., Mr M. Sangster (82); St Katharine's, Miss A. Forbes (82); Parish of Gartly—Braes, Miss J. W. Emslie (87); Central, Mr W. Smith (87); Parish of Glass—Beldorney, Miss M. M. Duguid (87); Glass, Mr D. Wood (87); Parish of Glenbucket—Glenbucket, Mr J. N. Watt (80); Parish of Glenmuick and Tullich—Ballater, Mr J. Lawson (79); Birkhall, Miss A. Begg (79); Inchmarnock—Miss C. Forbes (79); Kinnord, Miss R. Begg (79); Parish of Huntly—Gordon, Mr D. M. J. James (87); Kinnoir, Miss A. Allardyce (87); Longhill, Mrs H. Kemp (87); Parish of Insch—Insch, ? (80); Parish of Inveruric—Market Place, Mr J. Philip (80); Infant School, Mr J. Rennie (80); St Mary's Epis., Mr J. Stuart (80); Parish of Keig—Keig, ? (80); Parish of Keithhall and Kinkell—Keithhall, Mr Geo. Kemp (80); Parish of Kennethmont—Kennethmont, Mr G. Cheyne (80); Old Town, Mr P. Campbell (80); Parish of Kincardine O'Neil—Greenburn, Miss J. A. Ogg (79); Kincardine O'Neil, Mr A. T. Ross (79); Tornaveen, Mr P. Wallace (79); Torphins, Mr J. W. Williams (79); Parish of King Edward—King Edward, Mr J. Elphinstone (86); Parish of Kininmonth—Kininmonth, Mr G. M. Farquharson (84); Parish of Kinellar—Kinellar, Mr A. Forrest (80); Parish of Kintore—Kintore, Mr W. Keys (80); Leylodge, Miss A. Riach (80); Port Elphinstone—Mr J. Ritchie (80); Parish of Leochel Cushnie—Cairncoullie, Mr G. Shearer (80); Corse, Mr E. S. Mearns (80); Craigievar, Mr A. Grassick (80); Cushnie, ? (80); Parish of Leslie—Leslie, Mr G. Riddell (80); Parish of Logie Buchan—Tipperty, Mr L. Smart (78); Parish of Logie Coldstone—Logie Coldstone, Mr J. B. Anderson (79); Migvie, Miss E. Robertson (79); Parish of Longside—Kinmundy, Mr. A. McD. Younie (84); Longside, Mr A. Center (84); Rora, Mr A. F. Annand (84); Parish of Lonmay—Blackhills, Mr L. McLeod (83); Lonmay, Mr J. S. Ewen (83); St Combs, Mr R. Mirrless (83); Parish of Lumphanan—Lumphanan, Mr R. McLean (79); Parish of Meldrum—Commercial Road, Mr C. F. Bearsley (82); Kirk St., Infant, Miss McRae (82); Tulloch, Miss M. Cooper (82); Parish of Methlick—Cairnorrie, Mr J. Macdonald (82); Methlick, Mr A. C. Kirton (82); Parish of Midmar—Midmar and Corsindae Memorial, Mr J. Grant (79); Parish of Millbrex—Millbrex, Male, Mr. P. McDonald (82); Millbrex District, Mr E. Ironside (82); Parish of Monquhitter—Garmond, Miss M. A. Lyall (82); Greeness, Mr J. M. Stephen (82); Monquhitter, Mr W. Barclay (82); Parish of Monymusk—Monymusk, Mr A. W. Simpson (80); Sir Arthur Grant's, Miss E. M. Scott (80); Tillyfourie, Miss M. Main (80); Parish of New Byth—New Byth, Mr M. A. Clark (86); Upper Brae, Miss J. Wilson (86); Parish of New Deer—Cairnbanno, Mr J. Macpherson (84); Knaven, Mr W. Hadden (84); New Deer, Mr H. Cowie (84); do. Infant, Miss Morrison (84); Oldwhat, Mr A. Dunbar (84); Whitehill, Mr G. Greig (84); Bonnykelly, Miss A. B. Oliphant (84); Parish of Newhills—Blackburn, Mr J. Ligertwood (78); Bucksburn, Mr M. G. Gerrard (78); Kepplehills, Miss Jackson (78); Kingswells, Mr D. J. Williamson (78); Stoneywood, Mr C. Frazer (78); Parish of New Machar—New Machar, Mr J. G. Moncur (78); Parkhill, Miss A. J. Crane (78); Whiterashes, Mr J. McGregor (78); Parish of New Pitsligo—Glasslaw, Miss E. Davidson (84); New Pitsligo, Mr J. Will (84); St John's Episc., Miss Fowlie (84); Parish of Old Deer—Bulwark, Miss Watters (84); Cloehan, Mr R. D. Robertson (84); Fetterangus, Mr. W. Scorgie (84); Maud, Mr J. Law (84); Old Deer, Mr J. B. Gillies (84); Shannas, Mr P. S. Pyper (84); Stuartfield, Miss S. M. Thomson (84); Parish of Old Machar—Bridge of Don, Miss B. W. Killoh (78); Denmore, Miss A. Robertson (78); Whitestripes, Miss A. Dey (78); Parish of Oyne—Oyne, Mr Riddell (80); Parish of Petereulter—Countesswells, Miss A. M. Duncan (78); Craigton, Mr D. A. Farquhar (78); Cults, Mr F. Croll (78); Eddieston, Miss J. Rennie (78); Burgh of Peterhead—Academy, Mr J. Don (81); Buchanhaven, Miss J. C. King (81); Central, Mr A. McD. Reid (81); Infant, Miss A. Forbes (81); North, Mr W. Murray (81); North, Infant, Miss E. Barclay (81); St Peter's Epis., Miss E. Bruce (81); Parish of Peterhead (Landward)—Blackhills, Mr W. Smith (81); Boddam, Mr S. McKim (81); Burnhaven, Mr D. J. Mitchell (81); Parish of Pitsligo—Pitsligo, Miss H. Straehan (83); Rosehearty, Mr A. Forbes (83); Sandhaven, Mr W. J. Caird (83); Parish of Premnay—

Premnay, Mr W. L. H. Cruickshank (80); Parish of Rathen—Inveralloehy, Mr D. C. Dundas (13); Rathen, Mr J. Jaek (83); Cortes, Mr E. Cowie (83); Parish of Rayne—North, Mr W. Blaek (80); Old Rayne, Miss M. U. Morriee (80); Parish of Rhynie—Duffs, Miss A. M'Gillivray (87); Lesmore, ? (87); Parish of St Fergus—Central, Mr J. Cormaek (81); Northern, Miss J. Gall (81); Parish of Savoch—Braeside, Mr W. Ferguson (82); Savoeh, Girls, Miss E. Penny (82); Parish of Skene—Central, Mr G. Mitehell (79); Garlogie, Miss J. F. Harper (79); Westhill, Miss A. Maekie (79); Parish of Slains—Collieston, Miss H. Leslie (78); Slains, Mr Harper (78); Parish of Strathdon—Corgarff, Mr A. Merriless (80); Forbeston, Miss F. Rennie (80); Knoeklea, Mr J. Forbes (80); Strathdon, Mr J. B. Innes (80); Tillyduke, Mr C. Farquharson (80); Parish of Striehen—Striehen, Miss J. Aiken (84); Teehmuiry 2nd, Mr P. Seath (84); All Saints' Epis., Miss M. J. Greig (84); Parish of Tarland—Tarland, Mr J. Forbes (79); Parish of Tarves—Auehedly, Miss C. P. Hay (82); Barthol Chapel, Mr. W. Wilson (82); Craigdam, Mr J. Davidson (82); Parish of Tough—Tough, Mr Chas. Stewart (80); Parish of Towie—Ardlair, Miss J. Collie (80); Towie, Mr J. M'Lean (80); Parish of Turriff—Ardmiddle, Mr J. Roy (86); Birkenhills, Mr J. Dilworth (86); Fintry, Mr J. Clark (86); Turriff, Mr D. L. Phease (86); Parish of Tyrie—Tyrie, Mr A. Coppland (84); Parish of Udny—Udny Green, Mr W. Sim (82); Parish of Ythan Wells—Corse, Miss J. Toeher (82); Ythan Wells, Mr J. M'Pherson (82).

COUNTY OF ARGYLL.

Parish of Acharacle—Eilanshona, Mr J. M'Gregor (100); Glenborrodale, Miss A. F. Cameron (100); Kinloehmoidart, Miss J. J. Macnaughton (100); Mingarry, Miss K. Edmonson (100); Parish of Ardehattan and Muckairn—Achaleven, Mr W. W. Ewing (101); Glenetive, Mr K. J. Robson (101); Letterwood, Miss A. Connell (101); Parish of Ardgour—Ardgour, Miss Stuart (100); Duisky, Miss A. M'Millan (100); Trislaig, Miss A. Campbell (100); Kingairloeh, Miss C. M'Millan (100); Parish of Ardnamurehan—Kilehoan, Mr A. C. Storrer (100); Burgh of Campbeltown—Dalintober, Mr D. Fisher (103); Grammar, Mr R. Y. Cunningham (103); Millknowe, Mr J. Kirkwood (103); St Kierans, R. C., Miss T. Fisher (103); Parish of Campbeltown (Landward)—Aueheneorvie, Mr J. Templeton (103); Drumlemble, Mr D. Cameron, Kilmiehael, Mr W. H. Edgar (103); Peninver, Mr D. M. M'Neil (103); Parish of Coll—Acha, Miss M. Tyre (100); Arinagour, Mr R. MaeTaggart (100); Cornaig, Mr T. Johnston (100); Parish of Colonsay and Oronsay—Kilehattan, Miss J. Campbell (102); Parish of Craignish—Craignish, Mr J. Kay (101); Barbreek, Miss M. Ferguson (101); Parish of Cumlodden—Furnace, Mr W. G. M'Kinlay (101); Parish of Dunoon and Kilmun—Ardentinny, Mrs M. C. Giffen (104); Dunoon Grammar, Mr W. Doek (104); Glenlean, ? (104); Innellan, Mr D. Ritchie (104); Kirn, Mr J. Connell (104); Rashfield, Miss J. Bruee (104); Sandbank, Mr A. M'Neilage (104); Stronc, Mr W. Baird (104); Parish of Gigha and Cara—Gigha, Mr T. Seott (102); Parish of Glassary—Cairnbaan, Miss S. M'Intyre (101); Glassary, Mr J. Pemmell (101); Minard, Mr G. Nieolson (101); Parish of Glenaray and Inveraray—Bridge of Douglas, Miss Gibson (101); Parish of Glenorchy and Inishail—Bridge of Orehy, Mrs MacLaine (101); Cladieh, Miss C. Russell (101); Dalmally, Mr J. Maedonald (101); Parish of Inverchaolain—Inverehaolain, Mr T. M'Nab (104); South Hall, Miss J. B. Fraser (104); Parish of Jura—Ardlussa, Miss M. B. Spiers (102); Knoekromo, Mr G. H. Fisher (102); Small Isles, Mr W. M'Lintock (102); Parish of Kilbrandon and Kilehattan—Ardincaple, Miss A. Maekay (101); Luing, Mr C. Clubb (101); North Luing, Miss M. Orr (101); Parish of Kilcalmonell, Claehan, Mr J. Maekie (102); Whitehouse, Mr J. Ross (102); Parish of Kilehoman—Gortan, Mr A. Maekay (102); Kilehoman, Mr A. R. Seott (102); Kilnave, Miss M. R. Hayes (102); Port Charlotte, Mr A. M'Dougall (102); Portnahaven, Mr N. Orr (102); Rockside, Miss M. Ferguson (102); Parish of Kilehrenan and Dalavieh—Ardehonnell, Mr J. M'Leod (101); Dalavich, Miss M. Smith (101); Kilehrenan, Mr W. L. Bruee (101); Sonachan, Miss J. G. M'Kenzie (101); Parish of Kildalton—Ardbeg, Mr H. Bisset (102); Glenegidale, Miss

M. Bell (102); Kintour, Mr J. Marnie (102); Oa, Miss MacDougall (102); Port Ellen, Mr D. McLachlan (102); Parish of Kilfinan—Ardlamont, Miss Simpson (102); Kilfinan, Mr J. MacCallum (102); Millhouse, Mr D. McDonald (102); Otter Ferry, Mrs W. Stewart (102); Tighnabruaich, Mr A. Barrett (102); Parish of Kilfinichen and Kilvickeon—Ardchevaig, Mr A. R. Campbell (100); Bunessan, Mr J. McMaster (100); Creich, Mr A. Stewart (100); Erraid, Miss G. McKechnie (100); Iona, Mr Jas. Wood (100); Pennyghael, Miss C. L. Pagan (100); Parish of Killarrow and Kilmeny—Bowmore, Mr J. Bryce (102); Kiels, Miss M. E. Falconer (102); Kilmeny, Mr W. McFadyen (102); Mulindry, Mr D. MacBean (102); Newton of Kilmeny, Mr W. P. Cameron (102); Parish of Killean and Kilchenzie—Ballochintee, Miss J. McGibbon (103); Glenbarr, Mr W. Agnew (103); Kilchenzie, Mr W. McCulloch (103); Killean, Miss C. Livingston (103); Rhunahaorine, Mr W. Bain (103); Parish of Kilmodan—Kilmodan, Mr J. MacInnes (104); Stronafian, Mr P. A. Munro (104); Parish of Kilmore and Kilbride—Kerrera, Miss M. Rodger (101); Strontoiller, Miss F. C. Sinclair (101); Parish of Kilninian and Kilmore—Fanmore, Miss G. Warnock (100); Morinish, Miss M. Clark (100); Tobermory, Mr J. S. Levack (100); Parish of Kilninver and Kilmelford—Kilmelford, Miss J. B. Robertson (101); Parish of Lismore and Appin—Balachulish, Mr A. McCallum (101); Baligarve, Mr J. Wilson (101); Baligrundle, Mrs Campbell (101); Duror, Mr R. Macgregor (101); Glencreran, Miss M. McKenzie (101); Lettermore, ? (101); Port Appin, Miss A. McGlashan (101); Strath of Appin, Mr D. Macpherson (101); Carnock, Glencoe St Mary's Episcopal, Miss Janet Stewart (101); Parish of Lochgilphead—Ardrishaig, Mr A. Ramsay (101); Parish of Lochgoilhead and Kilmorich—Kilmorich, Mr J. B. Logan (101); Lochgoilhead, Mr W. Gilchrist (101); Parish of Morvern—Bunavullin, Miss H. Stewart (100); Claggan, Miss J. Robertson (100); Lochaline, Mr D. B. Fletcher (100); Parish of North Knapdale—Bellanoch, Mr A. Dixon (102); Parish of Oban; Burgh, High, Mr J. Beattie (101); Parish of Saddell and Skipness—Carradale, Mr J. R. McInnes (102); Saddell, Mr W. Jenkins (102); Skipness, Mr T. Johnston (102); Sperasaig, Mr J. S. Barwell (102); Parish of Southend—Glenbreckrie, Mr R. Montgomery (103); Southend, Mr J. Morton (103); Parish of South Knapdale—Auchoish, Miss J. Campbell (102); Dunmore, Mr D. McArthur (102); Inverneil, Miss L. Mactavish (102); Ormsary, Miss K. Blair (102); Parish of Stralachlan and Strachur—Poll, Mr A. N. Sheridan (101); Stralachlan, Miss J. E. Munro (101); Parish of Strontian—Strontian, Mr D. Cameron (100); Parish of Torosay—Crogan, Miss C. McKinnon (100); Kinlochspelve, Miss Mackinnon (100); Lochdonhead, Mr W. G. MacBean (100); Parish of Tyree—Cornaigmore, Mr D. McKinnon (100); Hillipool, Mr G. McDonald (100); Ruaig, Mr D. Gunn (100).

COUNTY OF AYR.

Parish of Alloway—Alloway, Mr J. Turnbull (31); Parish of Ardrossan—Academy, Mr J. Butters (29); Eglinton, Mr W. Comrie (29); Parish of Auchinleck—Auchinleck, Mr J. Henderson (26); Cronberry, Mr Jas. Hyslop (26); Glenmuir, Miss Mary Stuart (26); Lugar, Mr Wm. Hume (26); Ayr Burgh—Grammar, Mr Hy. Robertson (25); Newton on Ayr Academy, ? (25); Russell Street, Mr A. D. Murphy (25); Ayr Episcopal, Mr Jas. Scott (25); St Margaret's, R. C., Mr L. Gemson (25); Parish of Ballantrae—Auchenflower, Mr J. M. Ferguson (32); Ballachdowan, Miss J. S. Dale (32); Glenapp, Miss J. Leask (32); Parish of Barr—Rowantree, Mr J. Brown (31); Parish of Beith—Academy, ? (30); Greenhills, Mr T. Stevenson (30); Gateside, Mr J. J. Bone (30); Parish of Colmonell—Barrhill, Mr D. Millar (32); Colmonell, Mr A. Beattie (32); Corwar, Mrs Weir (32); Lendalfoot, Miss H. Gray (32); Pinwherry, Miss W. Holms (32); Parish of Coylton—Coylton, ? (31); Littlemill, Mr W. Guthrie (31); Parish of Crosshill—Crosshill, Mr Duncan (31); Kilkerran, Hillside, Miss McCreath (31); Parish of Dailly—Kilgrammie, Mr D. Taylor (31); Wallacetown Works, Mr D. Guthrie (31); Parish of Dalmellington—Benwhat, Mr A. McArthur (31); Lethan Hill, Mr D. Vallance (31); Parish of Dalry—Blairmains, Miss J. McR. Deacon (30); West End,

Mr D. Campbell (30); Parish of Dalrymple—Dalrymple, Mr A. Lockhead (31); Hollybush, Infant, Miss Johnstone (31); Kerse, Mr A. Lyle (31); Parish of Dreghorn—Dreghorn, Mr Jas. Mair (28); Parish of Dundonald—Dundonald, Mr H. Gibb (28); Loans, Miss J. C. Brown (28); Troon, Portland, Mr W. Scott (28); Troon, St Patrick's, Miss Murphy (28); Parish of Dunlop—Dunlop, Mr A. Brown (30); Parish of Fenwick—Fenwick, Mr W. Brown (30); Parish of Galston—Allanton, Miss Hunter (28); Galston, Mr A. Young (28); Town of Girvan—Girvan, Mr M. J. Finlayson (31); Girvan, H. G., Mr M. J. Finlayson (31); Parish of Girvan (Landward)—Assell, Mr H. Raeburn (31); Doune, Mr J. Eaglesome (31); Girvan, Mr D. Thomson (31); Burgh of Irvine—Bank Street, Mr R. Selkirk (28); Fullarton, ? (28); Fullarton, Loudon Street, Mr W. Mitchell (28); Parish of Irvine (Landward)—Anniek Lodge, Mr J. Dunlop (28); Parish of Kilbirnie—Glengarnock, Mr R. Gray (30); Ladyland, Mr J. Fulton (30); Female Industrial, Miss Turnbull (30); St Bridget's, R. C., Mr H. McGrath (30); Parish of Kilmarnock (Landward)—Crooked Holm, Mr T. Duncanson (28); Grougar, Mr C. S. Macdonald (28); Rowallan, Mr J. Clelland (28); Burgh of Kilmarnock—Academy, Dr H. Dickie (27); Academy H. G., Dr H. Dickie (27); Bentinek, Mr D. Walker (27); Glencairn, Mr Thos. Amos (27); Hamilton, Mr G. H. Innes (27); High Street, Mr G. Smith (27); West Netherton, ? (27); Parish of Kilmaurs—Crosshouse, Mr J. Wilson (28); Kilmaurs, Mr D. McNaught (28); Parish of Kilwinning—Auchentiber, Mr H. Paterson (30); Eglinton District, Mr R. Brothertone (30); Kilwinning, Mr W. Blair (30); Parish of Kirkmichael—Kirkmichael, Mr J. Kirkland (31); Parish of Kirkoswald—Townhead, Mr T. Chapel (31); Parish of Largs—Fairlie, Mr H. Allan (23); Parish of Loudoun—Newmilns, Mr A. Hood (28); Parish of Mauchline—Crosshands, Miss C. Mitchell (26); Mauchline, Mr J. Campbell (26); Parish of Maybole and Maybole West Church—Cairn, Mr A. M. Nisbet (31); Ladyland, Mr J. S. Porteous (31); Minishant, Mr J. Clark (31); Parish of Monkton and Prestwick—Monkton, Mr Jas. Howat (26); Prestwick, Mr W. Beaton (26); Parish of Muirkirk—Glenbuck, Mr J. Rodger (26); Wellwood, Miss Bella Ross (26); Parish of New Cumnock—Beoch Side, Miss McLennan (36); Dalleagles, Mr A. H. Mackay (36); New Cumnock, Mr J. A. Wales (36); New Cumnock, R. C., Miss M. Connolly (36); Parish of Ochiltree—Ochiltree, Mr A. Andrew (26); Sinclairston, Mr A. Green (26); Parish of Old Cumnock—Garallan, Mr J. B. Wilson (26); Old Cumnock, Mr J. Dick (26); Skares, Miss J. Wilson (26); Old Cumnock, R. C., ? (26); Parish of Riccarton—Hurlford, Mr H. Andrew (28); Riccarton, Mr A. Inglis (28); Barleith, Miss I. Paterson (28); Parish of St Quivox—St Quivox, Mr A. Moody (26); Parish of Sorn—Auchencloigh, Miss Forrester (26); Catrine, Mr J. Monie (26); Sorn, Mr Ed. Robertson (26); Parish of Stair—Stair, Mr T. E. Scott (26); Parish of Stevenston—Kyles Hill, Mr Geo. Tait (29); Stevenston, Mr J. Taylor (29); Ardeer, Mr W. Reid (29); Parish of Stewarton—Kingsford, Mr W. Hastings (30); Stewarton, Mr A. L. Watt (30); Parish of Straiton—Loch Doon, Mr A. H. Campbell (31); Straiton, Mr W. MacMorland (31); Parish of Symington—Symington, Mr Jas. Currie (26); Parish of Tarbolton—Annbank, Mr J. McArthur (26); Parish of West Kilbride—West Kilbride, Mr J. G. Lyon (23).

COUNTY OF BANFF.

Parish of Aberlour—Aberlour, Mr W. Philip (90); Edenvillie, Mr D. R. Mackay (90); Craigellachie, Miss E. H. McWilliam (90); Parish of Alvah—Alvah, Mr A. Stuart (86); Dunlugas, Miss C. Simpson (86); Linhead, Mr J. H. Fraser (86); Burgh of Banff—Academy, Mr McPherson (85); St Andrew's Epis., Miss I. Marr (85); Parish of Banff (Landward)—Headrooms, Miss Adamson (85); Hilton, Mr A. Scott (85); Parish of Boharm—Boharm, Mr R. Grant (90); Forgie, Miss M. Gill (90); Maggyknockater, Mr T. M. Smith (90); Parish of Botriphnie—Botriphnie, Mr J. Innes (87); Parish of Boyndie—Blairmaud, Miss A. Adamson (85); Boyndie, Mr W. Ledingham (85); Whitchills, Mr Geo. Wilson (85); Parish of Cabrach—Lower, Mr T. Robertson (87); Upper, Mr J. S. Burns (87); Parish of Cullen—Cullen, Mr W. Cramond (85); Parish of Deskford—Deskford, Mr W. Smith (86); Parish of Enzie—Enzie, Mr W. F. Nichol (87); Port Gordon, Mr J. Reid (87); Parish of Fordyce

—Bogmuchals, Miss I. D. Craik (85); Brodiesord, Mr J. A. King (85); Fordyce Academy, Mr A. Emslie (85); Portsoy, ? (85); Sandend, Mr Henry Cumming (85); Portsoy Female Industrial, Miss Liddell (85); Parish of Gamrie—Longmanhill, Mr J. Carine (85); Macduff, Mr D. Renton (85); Macduff Murray's, Mr J. Panton (85); Parish of Glenrinnes—Glenrinnes, Mr S. Wilson (90); Parish of Grange—Grange, Mr J. D. Burns (87); Parish of Inveravon—Glenlivet, Mr T. Laing (91); Inveravon, Mr A. Myron (91); Morinish, Mr D. M. MacDonald (91); Tomuavoulin, Miss M. A. Henderson (91); Ballindalloch, Lady McPherson Grant's, Miss E. S. Myron (91); Tombae, St Mary's, R. C., Miss A. Gordon (91); Parish of Inverkeithney—Easterfield, Miss Jessie Galt (87); Kirktown, Mr J. E. Taylor (87); Parish of Keith—Achanachie, Miss J. A. Henderson (87); Fife Keith, Infant, Miss J. L. Anderson (87); Keith, ? (87); Tarry Croys, Miss M. S. Robertson (87); The Glen, Miss J. Crane (87); Newmill, Mr A. Johnstone (87); Parish of Kirkmichael—Kirkmichael, Miss M. Gordon (91); Parish of Marnoch—Aberchirder, Mr D. Stewart (86); Culvie, Mr J. McIvor (86); Marnoch, Mr W. C. Shand (86); Netherdale, Miss J. Merson (86); Aberchirder Epis., Mr Morgan (86); Parish of Mortlach—Mortlach, ? (90); Parish of Ordiquhill—Ordiquhill, Mr A. Donald (86); Cornhill, Mrs J. M. Kemp (86); Parish of Rathven—Arradoul, Miss E. Johini (85); Buckie, Mr A. Muir (85); Fiudochty, M. J. Geddes (85); Rathven, Mr J. S. Paterson (85); Buckie, Lady Cathcart's Indust., Miss J. Cocker (85); Parish of Rothiemay—Rothiemay, Mr J. Geddes (87); Ternemny, Mr J. Mackie (87).

COUNTY OF BERWICK.

Parish of Abbey St Bathan's—Abbey St Bathan's, Mr E. J. Wilson (42); Parish of Ayton—Burnmouth, Mr C. M. Alexander (42); Parish of Buukle and Preston—Preston, Miss Robertson (42); Parish of Channelkirk—Channelkirk, Mr H. M. Liddell (42); Parish of Chirnside—Chirnside, Mr R. Kincaird (42); Parish of Cockburnspath—Ecclaw, Miss Nicholson (42); Parish of Coldingham—Auchiucrow, Mr R. Greig (42); Cairnbank, Mr Harris (42); Coldingham, Mr W. Robb (42); Rentou, Mr James Greig (42); Reston, Mr W. Dand (42); St Abbs, Mr A. Gibson (42); Parish of Coldstream—Coldstream, Mr D. C. Hardie (42); Parish of Cranshaws—Cranshaws, Mr W. B. Tomison (42); Parish of Duns—Millburn, Mrs E. S. Hopper (42); Parish of Earlston—Mellerstaiu, Miss A. Shaw (42); Parish of Eccles—Eccles, Mr W. Leitch (42); Parish of Edrom—Allanton, Mr Thomas Anderson (42); Parish of Foulden—Foulden, Mr C. Millar (42); Parish of Gordou—Gordon, Mr J. Leitch (42); Parish of Hume and Stitchell—Hume, Mr A. H. Cuthbert (42); Stitchell, Mr Wm. Smith (42); Parish of Hutton—Hutton, Mr John Brown (42); Paxton, Mr J. Kinross (42); Parish of Ladykirk—Ladykirk, Mr W. Milne (42); Parish of Langton—Langton, Mr J. McDonald (42); Parish of Lauder—Lauder, Mr W. Moore (42); Parish of Legerwood—Legerwood, Mr R. Martin (42); Parish of Longformacus—Longformacus, Mr J. Brown (42); Parish of Mertoun—Mertoun, Mr James Dodds (39); Parish of Mordington—Mordington, Mr Sinclair (42); Parish of Nenthorn—Nenthorn, Mr A. Winton (42); Parish of Polwarth—Polwarth, Mr R. Johnstone (42); Parish of Swinton—Swintou, Mrs Kayne (42); Parish of Westruther—Gateside, Miss C. Harrower (42); Westruther, Mr W. Gibb (42); Parish of Whitsome—Whitsome, Mr A. Brown (42).

COUNTY OF BUTE.

Parish of Cumbrae—Cumbrae, Mr R. Paterson (104); Parish of Kilbride—Brodick, Mr T. Reid (103); Corrie, Mr A. Cameron (103); Lamlash, Mr H. Wilkie (103); Parish of Kilmory—Littlemill, Mr J. D. McKiunon (103); Shiskine, Mr R. T. Irvine (103); Sliddery, Mr J. A. Cook (103); Parish of Kingarth—Birgidale, Miss M. S. Stewart (104); Kerrycroy, Mr W. Fulton (104); Kingarth, Mr W. T. Esplin (104); Mount Stewart, R. C., Mr J. Linsley (104); Parish of North Bute—Ballianlay, Mr J. Duncan (104); Kildavanuan, Mrs G. Weir (104); North Bute, Mr P. White (104); Burgh of Rothesay—Academy and Thomson's Institut., Mr J. D. Rose (104); Rothesay, Mr J. McKay (104); St Andrews, R. C., Sister Colette (104).

COUNTY OF CAITHNESS.

Parish of Bower—Bower, Mr D. Crowe (98); Gillock, Miss Bain (98); Stanstill, Mr A. Henry (98); Stemster, Mr J. Watson (98); Parish of Canisbay—Canisbay, Mr A. Munro (97); Freswick, Mr A. R. Forrest (97); John O'Groats, Mr G. F. Mackenzie (97); Mey, Mr Neil J. Leitch (97); Stroma, Mr D. Cormack (97); Parish of Dunnet—Crossroads, Mr W. A. Fowler (98); Dunnet, Mr A. Hay (98); Greenland, Miss M. A. Sutherland (98); Parish of Halkirk—Banniskirk, Miss G. Sinclair (98); Calder, Mr G. Sutherland (98); Harpsdale, Miss J. Noble (98); Leurery, Mr J. M'Kenzie (98); Spittal, Mr R. A. Morgan (98); Parish of Keiss—Aukengill, Mr G. Stalker (97); Parish of Latheron—Bruan, Mr J. Sutherland (97); Dunbeath, Mr J. Morrison (97); Lybster, Mr J. Mackenzie (97); Wheel, Miss E. M. Ross (97); Parish of Olrig—Castletown, Mr A. S. Robertson (98); Durran, Miss K. M. Cameron (98); Murkle, Mr J. Weir (98); Tain District, Miss J. Coghill (98); Olrig Female, Miss D. Sutherland (98); Parish of Reay—Brubster, Mr D. M'Leod (98); Reay, Mr D. Menzies (98); Parish of Thurso—Forss, Mr W. Thom (98); Janetstown Dist., Miss J. Cormack (98); Miller Instit., Mr W. M'Laren (98); West, ? (98); Weydale Dist., Mr A. Killin (98); Parish of Watten—Gersa, Mr A. Sutherland (98); Lanergill, Mr A. Malloch (98); West Watten, Mr P. Sutherland (98); Burgh of Wick—Pulteneytown Academy, Mr W. Dick (97); Wick North, Mr Geo. Gunn (97); Wick South, Mr A. S. Fullarton (97); West Banks, Mr C. Fletcher (97); Parish of Wick (Landward)—Bilbster, Mr C. MacLennan (97); Staxigoe, Mr Geo. Sutherland (97); Tannach, Mr J. T. Robison (97); Thrumster, Mr D. Finlayson (97); Whaligoe, Miss C. Sutherland (97).

COUNTY OF CLACKMANNAN.

Parish of Alloa Town—Alloa Burgh, Mr A. Wilson (51); Ludgate, Mr W. Millar (51); Sunnyside, Mr Ferguson (51); Alloa Epis., Mr M. H. Locker (51); Parish of Alloa (Landward)—Sauchie, Mr J. W. Paterson (51); Parish of Alva—Alva, Infant, Miss M. J. Lodge (51); Parish of Clackmannan—Clackmannan, Mr J. R. Renton (51); Forestmill, Miss Anderson (51); Kennet, Miss M. S. Aitchison (51); Parish of Dollar—Dollar, Mr J. Begg (51); Parish of Tillicoultry—Coalsnaughton, Mr J. Hunter (51); Tillicoultry, Mr J. Wilson (51).

COUNTY OF DUMBARTON.

Parish of Arrochar—Ardlui, Miss Lumsden (101); Arrochar, Mr C. Grierson (101); Parish of Bonhill—Alexandria, Main St, Mr A. F. Campbell (105); Vale of Leven Academy, Mr D. Macintyre (105); Bonhill, Mr A. K. Edward (105); South Jamestown, Mr D. R. Balls (105); Parish of Cardross—Cardross, ? (105); Renton, Mr J. Andren (105); Parish of Cumbernauld—Cumbernauld, Mr D. M'Phie (10); Southern District, Miss E. M'Phio (10); Burgh of Dumbarton—Academy, Mr A. T. Watson (106); Knoxland, ? (106); West Bridgend, Mr W. D. Anderson (106); Parish of Kilmaronock—Ardoch Bridge, Miss J. Forbes (105); Kilmaronock, Mr Lang (105); Parish of Kirkintilloch—Lenzie Academy, Mr A. Buchanan (12); Townhead, Mr D. Cameron (12); Parish of Kirkintilloch (Landward)—Condorrat, Mr W. Kerr (12); Tweechar, Mr J. Smith (12); Parish of Luss—Luss, Mr A. Forsyth (105); Muirland, Miss J. B. Cunningham (105); Parish of East Kilpatrick—Craigton, Mr D. Lindsay (19); Temple, Mr. J. Scott (19); Parish of West Kilpatrick—Clydebank, ? (22); Duntocher, ? (22); Milton, Mr G. Jennings (22); Parish of Roseneath—Roseneath, Mr W. Stewart (105); Parish of Row—Garelochhead, Mr J. Connor (105); Glenfruin, Miss M. A. Grant (105); Helensburgh, Grant and James St, Mr J. A. Crabbe (105); Helensburgh Hermitage, Mr D. Buchanan (105); Row, Mr W. Fraser (105); Shandon, Miss A. S. Connor (105); Helensburgh, Trinity Episc., Mr A. J. Bailey (105).

COUNTY OF DUMFRIES.

Parish of Annan—Academy, Mr W. Duncan (37); Annan, Mr W. Howe (37); Breconbeds, Mr J. Donaldson (37); Parish of Applegarth and Sibbaldbie—Sandyholm, Mr James Scott (37); Sibbaldbie, Mr G. Nettleship (37); Parish of Brydekirk—Brydekirk, Mr W. Thorburn (37); Parish of Canonbie—Gilnockie, Mr J. Hannam (37); Glenzier, Mr W. Guthrie (37); Harlaw, Mr W. G. Robertson (37); Parish of Caerlaverock—Glencaple, Mr W. Alexander (35); Parish of Closeburn—Closeburn, Miss Somerville (36); Gubhill, Mr Ja. Riddick (36); Wallace Hall Academy, Mr H. F. Menzies (36); Parish of Cummertrees—Trailtrow, Mr Wm. J. Rae (35); Parish of Dalton—Dalton, Mr A. Galbraith (37); Parish of Dornock—Dornock, Mr J. Dunlop (37); Parish of Dryfesdale—Lockerbie Academy, Mr P. Malcolm (37); Burgh of Dumfries—George Street, Mr J. Douglas (35); Loreburn Street, Mr J. B. Waddell (35); St Michael's Street, Mr J. Heudrie (35); St Andrew's, R. C., Mr J. Burns (35); St John's Episcopal, Mr L. G. MacDonald (35); Parish of Dumfries (Landward)—Brownhall, Mr J. White (35); Catherinefield, Mr D. H. Hutcheon (35); Noblehill, Mr T. Laing (35); Parish of Dunscore—Burnhead, Mr J. Dickson (36); Dunscore Village, Mr D. Gold (36); Parish of Durrisdeer—Birleyhill, Mr J. Connell (36); Durrisdeer, Mr J. R. Boyle (36); Enterkinfoot, Miss Dobson (36); Parish of Eskdalemuir—Davington, Mr E. H. Scott (37); Parish of Ewes—Ewes, Mr J. Lyall (37); Parish of Glencairn—Craigmuie, Miss E. Anderson (36); Moniaive, Mr K. Hunter (36); Parish of Gretna—Gretna, Mr James M'Indoe (37); Mount Pleasant, Mr A. S. Farquhar (37); Parish of Hoddam—Hoddam, Mr A. Fairnie (37); Parish of Holywood—Holywood, Mr W. Kennedy (36); Speddoch, Miss Bell (36); Steilston, Mr John Kennedy (36); Parish of Hutton and Corrie—Corrie, Mr T. M'Luskie (37); Hutton, Mr J. B. Edgar (37); Parish of Johnstone—Cogrieburn, Mr D. Angus (37); Goodhope, Mr J. Forsyth (37); Johnstone, Mr T. Craig (37); Parish of Keir—Lower, Mr J. R. Gordon (36); Upper, Mr J. B. Soutar (36); Parish of Kirkconnel—Cairn Combination, Mr J. Love (36); Parish of Kirkmahoe—Dalswinton, Mr T. Byers (36); Parish of Kirkmichael—Garrel, Mr R. K. Howie (37); Nethermill, Mr W. Hair (37); Parish of Kirkpatrick Fleming—Gair, Mr W. Turnbull (37); Kirkpatrick Fleming, Mr C. F. Brown (37); Parish of Kirkpatrick Juxta—Dumgree, Mr J. Smith (37); Kirkpatrick Juxta, Mr A. W. Wright (37); Parish of Langholm—Langholm Academy, ? (37); Wauchope, Miss Janet Bell (37); Parish of Lochmaben—Hightae, Mr Jas. M'Gregor (37); Lochmaben, Mr J. D. Dean (37); Templand, Mr D. Paterson (37); Parish of Middlebie—Hottsbridge, Mr J. Campbell (37); Middlebie, Mr Wm. Kerr (37); Eaglesfield, Mr J. L. Boyle (37); Parish of Moffat—Academy, Mr J. Duncan (37); Annan Water, Mr A. Prosser (37); Evan Water, Mr D. G. C. Stewart (37); Moffat Water, Mr Pollock (37); Parish of Morton—Morton Infant, Miss C. M'Kay (36); Carronbridge, Duke of Buccleuch's, Mr D. Smart (36); Parish of Mouswald—Mouswald, Mr J. F. Young (35); Parish of Penpont—Penpont, Mr W. Laidlaw (36); Parish of St Mungo—St Mungo, Mr J. Paterson (37); Parish of Sanquhar—Sanquhar, Mr R. N. Carson (36); Menuoch Bridge, Duke of Buccleuch's, Miss K. Simpson (36); Wanlockhead, Mr J. Edmond (36); Parish of Tinwald—Amisfield, Mr F. Ellon (37); Shieldhill, Miss Mundell (37); Parish of Torthorwald—Collin, Mr J. Proudfoot (35); Torthorwald, Mr J. M'Dougall (35); Parish of Tundergarth—Tundergarth, Mr C. Wilson (37); Parish of Tynron—Tynron, Mr Wm. Gookin (36); Tynron Endowed, Mr J. Lawrie (36); Parish of Westerkirk—Megdale, Mr John Buchan (37); Westerkirk, Mr W. S. Irving (37).

COUNTY OF MIDLOTHIAN.

Parish of Borthwick—Borthwick, Mr J. J. H. Reid (47); Parish of Carrington—Carrington, Mr R. B. Brunton (47); Parish of Cockpen—Bonnyrigg, Mr A. Somerville (47); Cockpen, Miss C. Graham (47); Parish of Colinton—Colinton, Mr A. Robertson (46); Juniper Green—Inf. and Ind., Miss Davidson (46); Juniper Green, Mr Jas. Malloch (46); Slateford, Mr A. Peterson (46); Swanston, Miss Graham (46); Parish of Corstorphine—Corstorphine, Mr G.

McGowan (46); Parish of Cramond—Davidson s Mains, Mr W. Bannerman (46); Lennie, Mr R. B. Finlayson (46); Parish of Cranston—Cousland, Mr J. Simpson (47); Cranston, Mr G. J. D. Barnes (47); Parish of Crichton—Crichton, ? (47); Pathhead, St Mary's R. C., Miss Gibney (47); Parish of Currie—Balerno, ? (47); Currie, Mr J. Jarvie (47); Hermiston, Miss Houston (47); Parish of Dalkeith—King's Park, Mr P. Marshall (47); City of Edinburgh—Bristo, Mr J. Philip (44); Broughton, Mr A. Hutcheson (44); Bruntsfield, Mr J. King (44); Davie Street, Mr J. McCrindle (44); Dean, ? (44); Duddingstou, Mr A. Millar (44); Flora Stevenson, Mr D. Gloag (44); Granton, Mr A. Scott (44); Leith Walk, Mr W. Alexander (44); Londou Street, Mr A. Shennan (44); North Canongate, Mr A. Young (44); North Merchiston, Mr A. H. Taylor (44); Parsons Green, Mr Williamson (44); Portobello, ? (44); Portobello, Tower Bank, Mr R. Todd (44); St Bernard's, Mr W. Mackay (44); South Bridge, ? (44); South Morningside, Mr J. Watson (44); Warrender Park, Mr Jas. Andrew (44); West Fountainbridge, Mr A. J. Johnston (44); Abbeyhill Epis., Miss Mackie (44); All Saints' Epis., Mr H. Hunter (44); Deaf and Dumb Institute, Mr E. Illingworth (44); Practising Epis., Mr W. L. Rayner (44); St Andrew's Epis., Mrs M. E. Morison (44); St James' Epis., ? (44); Parish of Fala and Soutra—Fala and Soutra, Mr J. Dunean (47); Parish of Glencorse—Glencorse, Mr A. G. Bertram (47); Parish of Heriot—Heriot, Mr W. Weir (47); Parish of Inveresk (Landward)—Cowpits, Miss Dunn (46); Craighall, Miss Brown (46); Wallyford, Miss Allan (46); Parish of Kirknewtou and East Calder—East Calder, Mr J. Black (47); Kirknewton, Mr T. Dick (47); Oakbank, Mr W. Millar (47); Parish of Lasswade—Lasswade, Mr James Gall (47); Loanhead, Mr R. M. Mackinnon (47); Pentland, Mr T. L. Lee (47); Rosewell, Mr D. Nelson (47); Roslin, Mr E. A. White (47); Loanhead St Margaret's, R. C., Mr M. Macintosh (47); Parish of Leith (Burgh)—Academy, Mr J. W. Tait (45); Bonnington Road, ? (45); Couper Street, Mr W. Darling (45); Great Junction Street, ? (45); Links Place, ? (45); Lochend Road, Mr R. Donaldson (45); Lorne Street, ? (45); Newhaven, Victoria, Mr R. B. Scott (45); North Fort Street, Mr J. Fraser (45); St Thomas, Mr J. Morgan (45); Trinity Academy, Mr T. M. Dunean (45); Yardheads, Mr T. Fraser (45); St James' Epis., Mr W. F. Walker (45); Parish of Liberton—Burdiehouse, Mr R. H. Tait (46); Gilmerton, Mr Montgomery (46); Liberton, Mr Thomas Custon (46); New Craighall, Miss A. M. Comrie (46); Gilmerton, Tho Anderson Female Industrial, Miss Stewart (46); Parish of Mid-Calder—Bellsquarry, Mr Shields (47); Causewayend, Miss Rutherford (47); Burgh of Musselburgh—Grammar, Mr Hope (46); Fisherrow Burgh, Mr J. W. Stephen (46); St Peter's Epis., Mr Stone (46); Parish of Newbattle—East Houses, Mr M. B. Trail (47); Parish of Penicuik—Howgate, Mr Jas. Downs (47); Kirkhill, ? (47); Penicuik Epis., Miss Annand (47); Parish of Ratho—Ratho, Mr T. Heslop (46); Dalmahoy, St Mary's Epis., Mr Pullan (46); Parish of Stobhill—Stobhill, Mr J. Hastie (47); Parish of Temple—Temple, Miss G. S. Lauder (47); Toxside, Mrs Cook (47); Parish of West Calder—Gavieside, Mr J. H. Taylor (47); Harburn, Miss Anderson (47); Leavenseat, Mr A. McIntosh (47); Woodmuir, Mr J. Graham (47).

COUNTY OF ELGIN.

Parish of Alves—Alves, Mr J. D. Cheyne (89); Parish of Bellie—Bellie, Mr A. J. Adams (88); Fochabers Milne's Institute, ? (88); Parish of Birnie—Birnie, Mr A. Murray (90); Parish of Cromdale—Advie, Mr W. T. Norval (91); Cromdale, Mr James Slater (91); Dava, Miss Jean Peace (91); Parish of Dallas—Kellas, Miss M. Clark (90); Parish of Drainie—Drainie, Mr J. McDonald (88); Lossiemouth, Mr A. S. Melvin (88); Parish of Duffus—Burghead, Mr J. Bremner (89); Duffus, Mr J. W. Corrigal (89); Roseisle, Miss H. Cowper (89); Parish of Dyke—Dyke, Mr J. J. Burgess (89); Kintessack, Miss Russell (89); Parish of Edinkillie—Conicavel, Mr J. McColl (90); Logie, Mr W. Russell (90); Relugas, Miss F. Maclenuan (90); Burgh of Elgin—Bishopmill, Mr G. Sutherland (88); Elgin, Girls, Miss Stephen (88); West End, Mr P.

Dow (88); Parish of Elgin (Landward)—Mosstowie, Mr W. Scott (88); New Elgin, Mr J. S. Turner (88); Parish of Kinloss—Findhorn, Mr J. Dewar (89); Kinloss, Mr J. Stewart (89); Parish of Knockando—Elchies, Mr J. Milne (90); Knockando, Mr C. Watt (90); Archiestown, Miss C. M. Turner (90); Parish of New Spynie—New Spynie, Mr J. Thomson (88); Parish of Rafford—Burgie, Miss A. Jeffrey (90); Parish of Rothes—Rothes, Mr T. R. Watson (90); Parish of St Andrews Lhanbryde—Cranloch, Mr W. T. Melvin (88); St Andrews Lhaubryde, Mr R. Stephen (88); Parish of Speymouth—Garmouth, Mr W. F. Stewart (88); Speymouth, Mr A. Geddie (88); Parish of Urquhart—Urquhart, Mr A. Ritchie (88).

COUNTY OF FIFE.

Parish of Abdie—Abdie, Mr A. Lornie (55); Parish of Aberdour—Aberdour, Mr R. Young (53); Donibristle Colliery, Mr P. Williamson (53); Parish of Anstruther Easter—Anstruther Easter, Mr J. Paterson (55); Parish of Anstruther Wester—Anstruther Wester, Mr W. P. Wilson (54); Parish of Auchterderran—Auchterderran, Mr A. Rankine (53); Cardenden, Mr T. A. McEwen (53); Parish of Auchtermuchty—Dunshalt, Miss Melville (57); Parish of Auchtertool—Auchtertool, Mr J. Glendinning (53); Parish of Ballingry—Ballingry, Mr J. Park (57); Parish of Balmerino—Balmerino, Mr T. Barrie (55); Parish of Beath—Cowdenbeath, ? (57); Foulford, Mr W. A. Guthrie (57); Hill of Beath, ? (57); Kelty, Mr James B. Calder (57); Parish of Burntisland—Burntisland Episcopal, Miss J. Stewart (53); Parish of Cameron—Cameron, Mr J. Robertson (55); Denhead, Miss B. McGillivray (55); Radernie, Mr W. Wilson (55); Parish of Carnbee—Arncroach, Mr J. Donaldson (55); Carnbee, Mr J. Pentland Smith (55); Parish of Carnock—Cairney Hill, Mr J. B. Rankine (52); Parish of Collessie—Collessie, Mr W. Penman (57); Ladybank, Mr T. H. Ross (57); Parish of Crail—Crail, Mr M. Ireland (55); Parish of Culross—Geddes, Mr J. Ramsay (52); Parish of Cults—Cults, Mr G. L. Leitch (55); Parish of Cupar (Landward)—Brighton, Miss J. C. Cumming (55); Parish of Dairsie—Dairsie, Mr W. S. Seath (55); Parish of Dalgety—Hillend, Mr J. Forrester (53); Parish of Dunbog—Dunbog, Mr J. Anderson (55); Parish of Dunfermline (Burgh)—McLean, Mr C. McChlery (52); Milesmark, Mr W. Hepburn (52); Queen Anne, ? (52); St Leonards, ? (52); Parish of Dunfermline (Landward)—Charlestown, Mr J. Davidson (52); Crossford, Mr A. Borthwick (52); Crossgates, Mr R. Wallace (52); Halbeath, Mr J. Robertson (52); Limekilus, Mr A. Todd (52); Townhill, Mr J. Marshall (52); Wellwood, Mr G. Henderson (52); Parish of Dunino—Duuino, Mr J. W. Souers (55); Parish of Dysart (Burgh)—Dysart, Mr John Boyd (54); Parish of Elie—Elie, Mr R. Crombie (55); Parish of Falkland—Falkland, Mr J. Richardson (57); Freuchie, Mr J. Methven (57); Parish of Flisk—Flisk, Mr D. M. Dingwall (55); Parish of Forgan—Forgan, Mr J. Cameron (55); Wormit, Mr D. M. Allison (55); Parish of Inverkeithing—Inverkeithing, Mr D. M. Scott (53); North Queensferry, Mr J. M. Cuthill (53); Parish of Kennoway—Kennoway, Mr James Blair (54); Star, Mr W. McLachlan (54); Parish of Kettle—Kettle, Miss Lawson (57); Parish of Kilconquhar—Colinsburgh, Mr J. H. Balleny (55); Kilconquhar, Mr D. L. Pye (55); Parish of Kilmany—Kilmany, Female, Miss White (55); Parish of Kilrenny—Cellardyke, Mr J. Barbour (55); Kilrenny Upper, Mr R. Forsyth (55); Parish of Kinghorn—Kinghorn, Mr W. Mann (53); Kinghorn, Infant, Miss Gibson (53); Parish of Kinglassie—Kinglassie, Mr W. Spears (54); Parish of Kingsbarns—Kingsbarns, Mr R. McKenzie (55); Parish of Kirkcaldy—Abbotshall, Mr J. Ogilvie (58); East, Mr W. Watson (58); High (Elem. Dept.), Mr J. Corrie (58); Parish of Kirkcaldy and Dysart (Landward)—Chapel, Mr G. Harris (54); Strathore, Mr D. T. Brunton (54); Parish of Largo—Durham, Miss Riach (54); Kirkton, Mr T. Nicholl (54); Lundin Mill, Mr D. M. Stewart (54); Parish of Largoward—New Gilston, Mr J. Inch (55); Parish of Leslie—Leslie, Mr D. McLeod (57); Parish of Leuchars—Balmullo, Mr D. Murrie (55); Guardbridge, Mr R. Anderson (55); Leuchars, Mr J. Cribbes (55); Parish of Lochgelly—Lochgelly, Mr P. MacDuff (53); Lumphinnans, Mr D. Low (53); Parish of Markinch—Balcurvie, Mr A. Coutts (54); Coaltown, Mr A. S. Coutts (54); Markinch, Mr D. G. Coull (54); Prestou, Mr James Munro

(54); Parish of Monimail—Easter Fernie, Mr C. Arnott (55); Letham, Mr C. D. Smitton (55); Parish of Moonzie—Moonzie, Mr J. Douglas (55); Parish of Newburgh—Newburgh, Mr John Howat (55); Parish of Newburn—Newburn, Mr F. R. Lumsden (55); Parish of Pittenweem—East, Mr A. Howat (55); South, Miss Watson (55); Parish of St Andrews (Burgh)—Burgh, Mr E. King (55); Parish of St Andrews (Landward)—Boarhills, Mr T. S. Glover (55); Parish of St Monance—St Monance, Mr Isaac Neirn (55); Parish of Scoonie—Smithy Green, Miss Ferrier (54); Parish of Springfield—Springfield, Mr J. Forbes (57); Parish of Strathmiglo—Gateside, Mr Duff (57); Strathmiglo, Mr G. Braid (57); Parish of Wemyss—Wemyss, Dorothy, Mr D. H. Lindsay (54).

COUNTY OF FORFAR.

Parish of Aberlemno—Aberlemno, Mr J. Stewart (73); Pitkennedy, Mr W. Irvine (73); Parish of Airlie—Airlie, Mr W. Lyon (68); Parish of Arbirlot—Arbirlot, Mr Wilson (65); Parish of Auchterhouse—Auchterhouse, Mr J. Robertson (68); Burgh of Arbroath—High (Elem. Dept.), Miss M. Duguid (64); Inverbrothock, Mr A. F. Davidson (64); Keptie, Mr J. Kinnear (64); The Abbey, Mr J. Hunter (64); The Hill, Mr J. Guild (64); Parish of Barry—Barry, Mr D. Bain (65); Carnoustie, Mr D. A. Christie (65); Burgh of Brechin—Bank Street, Mr J. D. Ross (73); The Tenements, Mr R. A. Scott (73); Parish of Brechin (Landward)—Aldbar, Mr A. C. Robertson (73); Little Brechin, Mr C. Richard (73); Arrat, Miss J. H. Westwood (73); Town of Broughty Ferry—Eastern, Mr Wm. Sim (65); Grove Academy, Mr Alex. Hutt (65); Southern, Mr R. Cameron (65); Western, Mr J. Thomson (65); Parish of Careston—Careston, ? (73); Parish of Carmyllie—East, Mr G. S. McDonald (67); West, Mr W. F. Anderson (67); Parish of Craig—Ferryden, Infant, Miss J. Coull (72); Westerton, Mrs J. Wilkie (72); Parish of Cortachy and Clova—Clova, Mr G. Cameron (75); Glenprosen, Mr R. H. Volume (75); Wateresk, Mr T. Campbell (75); Burgh of Dundee—Ancrum Road, Mr R. Locke (66); Ann Street, Mr J. Gibson (66); Balfour Street, Mr W. Bertie (66); Blackness, Mr J. Malloch (66); Brown Street, Mr C. Sharp (66); Butterburn, Mr J. A. Anderson (66); Cowgate, Mr G. Sword (66); Dudhope, Mr G. Simpson (66); Glebelands, Mr J. Mudie (66); Harris Academy, Mr J. Brebner (66); Hill St, Mr G. Ferguson (66); Lochee, Liff Road, Mr R. W. Thornton (66); do., South Road, Mr A. Dorward (66); Morgan Academy, Mr W. B. Irvine (66); Rosebank, Mr W. Dickson (66); St Andrew's, Mr A. Leighton (66); Tay St, Mr D. Dawson (66); Victoria Road, Mr R. Loggie (66); Wallace Town, Mr J. Watt (66); Lochee Epis., Mr A. Marr (66); St Martin's Epis., Miss Gibb (66); St Paul's Epis., Mr W. Gray (66); Lochee, St Mary's, R. C., Mr R. A. Smith (66); St Patrick's, R. C., Miss McErlain (66); Seafield's Works, Half time, Miss Roy (66); Parish of Dundee (Landward)—Drumgeith, Mr J. Keith (66); Parish of Dunnichen—Craichie, Mr H. S. Deas (67); Letham, Mr T. M. Henry (67); Parish of Eassie and Nevay—Eassie and Nevay, Mr A. Mearns (68); Parish of Edzell—Edzell, Mr T. Bennet (75); Waterside, Miss J. Black (75); Parish of Fern—Fern, Mr J. Miller (75); Burgh of Forfar—West, Mr J. Campbell (67); Parish of Forfar (Landward)—Lunanhead, Mr J. Yuille (67); Parish of Fowlis Easter—Fowlis Easter, Mr G. Colston (68); Parish of Glamis—Glen Ogilvy, The Milton, Mr Henderson (67); Parish of Glenisla—Folda, Mr T. D. Lyon (76); Glenisla, Mr R. Thomson (76); Kilry, Mr J. C. Beaton (76); Parish of Guthrie—Guthrie, Mr J. Smith (73); Parish of Inverarity—Inverarity, Mr P. Elder (67); Parish of Inverkeilor—Chapelton, Mr W. Linton (65); Inverkeilor, Mr Chas. Crawford (65); Parish of Kettins—Kettins, Mr D. Macqueen (68); Parish of Kinnell—Kinnell, Mr W. Gouldie (72); Parish of Kinnettles—Kinnettles, Mr G. Marten (67); Parish of Kirkden—Kirkden, Mr Lee (67); Parish of Kirriemuir—Carroch, Mr S. J. Welch (75); Kirriemuir Evening School, Mr G. Kyd (75); Padanarum, Mr D. W. Fairweather (75); Reform St, Mr A. Phyn (75); Roundyhill, Mr T. Hewit (75); Webster's Seminary, Mr A. Menzies (75); Westmuir, Miss F. A. Hood (75); St Mary's Epis., Mr H. E. Peacock (75); Parish of Liff, Benvie, etc.—Liff, Mr A. McCaskie (68); Muirhead of Liff, Mr J. B. Dorward (68); Parish of Lintrathen—Braes of Coull, Mr J. Cook (76); Lintrathen, Mr W. F. Anderson (76); Parish of Lochlee—

Lochlee, Mr S. Cruickshank (75); Parish of Logie Pert—Craigo, Mr J. Eaton (73); Parish of Lunan—Lunan, Mr Arch^{d}. Wilson (72); Parish of Lundie—Lundie, Mr J. Scott (68); Parish of Mains and Strathmartine—Downfield, Mr W. Eckford (68); Strathmartine, Mr J. M^{c}Ash (68); Parish of Maryton—Maryton, Miss Mary Kelman (72); Parish of Menmuir—Menmuir, Mr R. Grimm (73); Parish of Monifieth—Monifieth, Mr J. H. Meldrum (65); Parish of Monikie—Bankhead, Mr A. Clark (67); Monikie, Mr P. Grant (67); Newbigging, Mr S. S. Low (67); Burgh of Montrose—Academy, Mr A. J. A. Russell (72); Southesk, Mr J. Stobo (72); Parish of Murroes—Murroes, Mr H. A. Forsyth (67); Parish of Navar and Lethnot—Navar and Lethnot, Mr W. Paterson (75); Parish of Newtyle—Newtyle, Mr Morgan (68); Parish of Oathlaw—Oathlaw, Mr M. A. Thomson (75); Parish of Panbride—Muirdrum, Mrs Nicolls (65); Panbride, Mr J. C. Stuart (65); Parish of Rescobie—Rescobie, Mr W. Simpson (73); Parish of St Vigeans and Arbroath (Landward)—Colliston, Mr R. S. Armit (65); St Vigeans, Mr Jas. Cox (65); Parish of Tannadice—Burnside of Inshewan, Mr W. Mortimer (75); Tannadice, Mr J. Henderson (75); Parish of Tealing—Tealing, Mr P. M. M^{c}Kenzie (68).

COUNTY OF HADDINGTON.

Parish of Aberlady—Aberlady, Mr A. M. Jameson (43); Parish of Bolton—Bolton, Mr A. T. Nicol (43); Parish of Dirleton—Kingston, Mr J. Aitchison (43); Dunbar (Burgh)—Dunbar, Mr A. Caurie (43); Parish of Dunbar (Landward)—East Barns, Mr A. M^{c}Callum (43); Parish of Garvald—Garvald, Mr J. Boucher (43); Parish of Gladsmuir—Longniddry, Mr J. G. Allan (43); Samuelston, Mr J. Winton (43); Haddington Burgh—Primary, ? (43); Roman Catholic, Miss English (43); Parish of Innerwick—Innerwick, Mr P. Purdie (43); Parish of Morham—Morham, Mr W. Graham (43); Parish of North Berwick—Halfland Barns, Miss I. O. Brown (43); High (Elementary Department), Mr T. S. Glover (43); North Berwick, Mr G. Tait (43); Parish of Ormiston—Crossroads, Mr Chalmers (43); Ormiston, Mr R. Henderson (43); Parish of Pencaitland—Pencaitland, Mr C. A. Ritchie (43); Parish of Prestonpans—Prestonpans, Mr J. Wallace (43); Parish of Salton—Salton, Mr W. A. Findlay (43); Parish of Spott—Spott, Mr R. Grieve (43); Parish of Stenton—Stenton, Mr J. Brown (43); Parish of Whitekirk and Tyninghame—Tyninghame, Mr R. A. Watt (43); Whitekirk, Mr J. Wood (43); Parish of Whittinghame—Kingside Combination, Miss Hutchison (43); Whittinghame, Mr J. Hunter (43); Parish of Yester—Longyester, Miss E. Muir (43); Yester, ? (43).

COUNTY OF INVERNESS.

Parish of Abernethy and Kincardine—Abernethy, Mr A. Steele (91); Dorback, Miss A. Cruickshank (91); Glenbrown and Glenlochy, Miss H. M^{c}Gregor (91); Tulloch, Mr G. Cumming (91); Parish of Alvie—Alvie, Mr F. Garden (91); Laggan Ha, Miss M. M^{c}Lean (91); Lynwilg, Miss M. M^{c}Donald (91); Parish of Arisaig—Glenuig, Miss Mackay (100); Arisaig, R. C., Miss M. J. M^{c}Cartan (100); Parish of Barra—Castlebay, Mr J. Smith (107); Craigston, Mr C. W. Kelsey (107); Northbay, Mr P. Flanagan (107); Parish of Boleskine and Abertarff—Boleskine, Mr Wm. Traill (94); Fort Augustus, Mr J. D. Robertson (94); Knockchoilum, Miss I. Mackintosh (94); Parish of Bracadale—Carbost, Mr G. Barron (99); Glenbrittle, Miss D. M^{c}Crimmon (99); Struan, Mr W. P. Gold (99); Parish of Croy and Dalcross—Clava, Mr J. Moir (89); Croy, Mr J. Wedderspoon (89); Parish of Daviot and Dunlichty—Brin, Mr J. Macrae (91); Daviot, Mr A. M^{c}Lellan (91); Dunmaglass, Miss J. Davidson (91); Farr, Mr J. G. M^{c}Beth (91); Parish of Dores—Aldourie, Mr M. M^{c}Donald (94); Stratherrick, Mr G. R. Wilson (94); Parish of Duirinish—Borraraig, Mr F. Nicolson (99); Borrodale, Mr J. M^{c}Kay (99); Colbost, Mr J. S. Young (99); Edinbain, Mr D. J. Mackenzie (99); Parish of Duthil and Rothiemurchus—Deshar, Mr J. Galbraith (91); Dulnain Bridge, Mr W. Stuart (91); Duthil, Mr J. Macrae (91); Rothiemurchus, Mr W. Dempster (91); Parish of Glenelg—Arnisdale, Miss M. Macdonald (99); Bracara, Miss C. F. Robertson (99); Glasnacardock, Mr T. O'Reilly

(99); Glenelg District, Mr J. McArthur (99); Parish of Glengarry—Aberchalder, Miss Macnab (94); Invergarry, Mr J. P. Graham (100); Glenquoich, Miss Durnie (100); Parish of Harris—Amhuinnsuidh, Mr J. MacLeod (108); Drinishader, Mr D. Mackinnon (108); Finsbay, Mr D. J. McRa (108); Kyles Stocknish, Mr M. Macarthur (108); Manish, Mr W. Cook (108); Scalpa, Mr J. L. Neil (108); Scarp, Mr D. Craig (108); Scarista, Miss M. Paterson (108); Parish of Insh—Insh, Miss E. W. Whyte (91); Inverness (Burgh)—Central, ? (92); Clachnaharry, Mr J. L. Clark (92); Farraline Park, Mr A. Thomson (92); High (Elementary Department), Mr T. Wallace (92); High (Secondary Department), Mr A. McBain (92); Cathedral, Boys, Mr Hy. Stafford (92); Northern Counties Blind Institution, Mr Anderson (92); Parish of Inverness (Landward)—Culduthel, Mr J. McPherson (92); Leachkin, Mr J. Tough (92); Nairnside, Mr Martin (92); Highland Orphanage, Miss C. A. Strachan (92); Parish of Kilmallie—Banavie, Mr J. Young (100); Fort William, Mr A. Mackay (100); Kinlocheil March, Mrs W. Fraser (100); Onich, Mr W. Hay (100); Fort William, R. C., Mr K. Maillcy (100); Parish of Kilmonivaig—Roy Bridge, Miss M. Nesbit (100); Tomcharich, Miss R. Cameron (100); Parish of Kilmorack—Beauly, Mr J. Pollock (93); Struy, Mr D. Reid (93); Beauly, R. C., Miss L. McDonell (93); Marydale, R. C., Miss B. Carr (93); Parish of Kilmuir—Kilmaluag, Mr R. S. MacKay (99); Parish of Kiltarlity—Culburnie, Mr H. Henderson (94); Guisachan, Mr J. McPhail (94); Parish of Kingussie—Kingussie, ? (91); Newtonmore, ? (91); Parish of Kirkhill—Kirkton, Miss McGlashan (93); Knockbain, Mr J. Shewan (93); Parish of Laggan—Glentruim, Mr A. Douglas (91); Lochlaggan, Mr J. Livingstone (91); Parish of Moy and Dalarossie—Dalarossie, Mr S. Archibald (91); Moy, Mr J. Hunter (91); Raibeg, Mr D. Cameron (91); Parish of North Uist—Borcray, Mr F. Maclean (107); Claddach Kirkibost, Miss Matheson (107); Glaic, Miss M. McDonald (107); Grimisay, Mr D. Campbell (107); Heisker, Miss M. F. Mackay (107); Locheport, Miss J. M. I. Grant (107); Lochmaddy, Mr J. McDonald (107); Trumisgarry, Mr H. McDougall (107); Parish of Petty—East, Mr J. S. Gloag (89); West, Mr W. McCulloch (89); Parish of Portree—Braes, Mr J. Bruce (99); Glens, Mr R. Ramsay (99); Penefiler, Mr K. Macpherson (99); Portree, Mr A. Gillanders (99); Raasay, Mr H. Macfarlane (99); Rona, Mr A. Murchison (99); Torran, Mr T. Graham (99); Parish of Sleat—Ardvasar, Miss A. McDonald (99); Drumfern, Miss Smith (99); Duisdale, Mr M. Macleod (99); Ferrindonald, Mr J. Christie (99); Kylerhea, Miss M. McKinnon (99); Parish of Small Isles—Eigg, Miss N. Ross (100); Rum, Miss H. O. McCrae (100); Muck, Miss M. A. Campbell (100); Parish of Snizort—Carbost Macdiarmid, Mr J. McIver (99); Kensaloyre, Miss A. Campbell, (99); Parish of South Uist—Balivanich, Miss A. Fyffe (107); Carnan, Miss E. Coulan (107); Eriskay, Mr T. M. Patten (107); Jochdar, Mr Jas. McLaughlin (107); Parish of Stenscholl—Digg, Mr M. A. Mackinnon (99); Staffin, Mr D. J. Macleod (99); Parish of Strath—Breakish, Mr R. J. Stilt (99); Dunan, Mr J. A. MacIntyre (99); Kylcakin, Mr J. D. Gunn (99); Torrin, Miss C. Maclean (99); Parish of Urquhart and Glenmoriston—Bunloit, Miss A. Mackintosh (94); Corrimony, Miss Molly Kane (94); Dalchreichard, Miss M. F. Wilson (94); Glen Urquhart, Mr B. Skinner (94); Invermoriston, Mr W. Grant (94).

COUNTY OF KINCARDINE.

Parish of Arbuthnot—Arbuthnot, Mr A. Mason (74); Parish of Banchory Devenick—Banchory Devenick, Mr R. H. Dean (74); Portlethen, Mr J. R. Hunter (74); Parish of Banchory Teruan—Central, Mr R. H. Paton (79); Crathes, Mr T. Menzies (79); Inchmarlo, Mr W. Gilmour (79); Tilquhillic, Miss A. Morrison (79); Raemoir, Mrs Hadden (79); Parish of Benholm—Benholm, Mr J. Russell (72); Johnshaven, Mr R. Stewart (72); Parish of Bervie—Bervie, Mr T. Mitchell (72); Gourdon, Mr A. Urquhart (72); Gordons, Female, Mrs M. Stewart (72); Parish of Dunnottar—Brackmuirhill, Mr A. Inglis (74); Dunnottar, Mr F. Reid (74); Stonehaven, Epis., Miss L. Rettie (74); Parish of Durris—Crossroads, Mr A. Macdonald (79); Parish of Fettercairn—Fettercairn, Mrs D. J. Young (73); Inch, Mr A. Moodie (73); Fasque, Miss Munro (73); Parish of Fetteresso and Rickarton—Cairnhill, Mr J. Geddes (74); Cookuey,

Mr C. Innes (74); Muchalls, Miss C. Watson (74); Netherley, Miss Willox (74); Rickarton, Mr J. Faulds (74); Stonehaven, ? (74); Tewel Joint, Miss A. N. Wood (74); Parish of Fordoun—Fordoun, Mr J. G. Wallace (75); Landsend, Mr D. A. Duncan (75); Tipperty, Miss Duncan (75); Parish of Garvock—Garvock, Mr J. Bethune (72); Parish of Glenbervie—Glenbervie, Mr G. H. Kinnear (75); Parish of Kinneff and Catterline—Kinneff, Mr D. G. Dorward (74); Catterline, Miss Cruickshank (74); Parish of Laurencekirk—Laurencekirk, Mr J. Grant (73); Laurencekirk Episcopal, ? (73); Parish of Maryculter—East, Mrs Paton (74); West, Mr W. R. Bain (74); Parish of Marykirk—Marykirk, Mr J. B. Fenton (73); Napier Memorial, Miss M. T. Hampton (73); Parish of Nigg—Cove, Mr A. J. Barclay (74); Kirkhill, Mr G. Tough (74); Parish of St Cyrus—St Cyrus, Mr W. Russell (73); Parish of Strachan—Strachan, Mr J. F. Mackie (79).

COUNTY OF KINROSS.

Parish of Cleish—Cleish, Mr T. Dobbie (57); Parish of Fossoway and Tullicbole—Carnbo, Mr S. T. Lear (57); Fossoway, Mr W. D. Robieson (57); Parish of Kinross—Kinross, Mr J. M. Ross (57); Parish of Orwell—Orwell, Mr A. Duff (57); Milnathort, Reid Memorial, Mr E. Mann (57); Parish of Portmoak—Portmoak, Mr A. Mitchell (57).

COUNTY OF KIRKCUDBRIGHT.

Parish of Auworth—Fleetside, Mr D. Clark (34); Skyreburn, Mr J. Pritchard (34); Parish of Balmaclellan—Endowed Free, Mr J. Mitchell (34); Ironmaccannie, Mr A. M. Murray (34); Monybuie, Miss M. Fleming (34); Parish of Balmaghie—Glenlochar, Mr D. R. Cunningham (34); Laurieston, Mr A. Hitchcock (34); Parish of Bargrennan—Bargrennan, Mr D. K. Barne (34); Kuowe, Mr John Lochs (34); Parish of Borgue—Borgue, Mr J. McF. Doig (34); Parish of Buittle—High, Mr Hugh Knox (34); Palnackie, Mr S. McKie (34); Parish of Carsphairn—Carsphairn, Mr J. Wilson (36); Parish of Colvend and Southwick—Barnbarrock, Mr G. Bentham (34); Colvend, Mr James Davidson (34); Southwick, Mr J. C. Ferguson (34); Parish of Corsock—Corsock, Mr Jas. Weir (34); Parish of Crossmichael—Crossmichael, Mr John Clark (34); Parish of Dalry—Corseglass, Miss R. Campbell (36); Dalry, Mr J. Marchbank (36); Stroanfreggan, Mr J. Leny (36); Parish of Girthou—Girthon, Mr Wm. Learmonth (34); Parish of Irongray—Roughtree, Mr M. A. Henderson (36); Parish of Kells—Dee, Miss Smith (34); Kells, Mr James Anderson (34); Mossdale, Mr W. Douglas (34); Pollharrow, Mr Callander (34); Parish of Kelton—Castle Douglas, Mr H. A. Braine (34); Gelston, Mr S. McMurray (34); Rhonehouse, Mr R. Harris (34); Parish of Kirkbean—Kirkbean, Mr W. D. Douglas (34); Preston, Mr W. A. Forsyth (34); Parish of Kirkcudbright—Johnston, Mr J. M. Smith (34); Townhead, Mr A. Matheson (34); Whinnie Liggate, Mr A. McKinney (34); Old Church, Miss Naismith (34); Parish of Kirkgunzeon—Kirkgunzeon, Mr R. Milligan (34); Parish of Kirkmabreck—Kirkmabreck, Mr C. S. Robertson (34); Creetown, St Joseph's R. C., Miss Doran (34); Parish of Kirkpatrick Durham—Kirkpatrick Durham, Mr R. McConachie (34); Parish of Lochrutton—Lochrutton, Mr A. Dick (36); Parish of Minnigaff—Cree Bridge, Mr G. C. Cowburn (33); Parish of New Abbey—Lochend, Mr J. Herries (34); New Abbey, Mr E. McCarrack (34); Parish of Parton—Parton, Mr Jas. Bell (34); Parish of Rerrick—Auchencairn, Mr Geo. A. Mills (34); Dundrennan, Mr J. Scott (34); Parish of Terregles—Terregles, Miss N. A. Black (36); Parish of Tongland—Tongland, Mr Geo. Hunter (34); Parish of Troqueer—Drumsleet, Mr J. Symington (36); Laurieknowe, Mr J. S. Elder (36); Whinnyhill, Miss R. W. McKie (36); Parish of Twynholm—Twynholm, Mr D. G. Taylor (34); Parish of Urr—Dalbeattie, Mr A. Baxter (34); Hardgate, Mr R. Aird (34); Milton, Miss A. J. Robson (34); Springholm, Miss M. McDougall (34); Dalbeattie, R. C., Mrs Hadfield (34).

COUNTY OF LANARK.

Parish of Airdrie (Burgh)—Academy, Mr H. Manners (9); Albert, Mr J. C. Carlisle (9); Chapelside, Mr J. Moffat (9); Rochsolloch, Mr D. M. Simpson (9); Victoria, ? (9); St Margaret's, R. C., Mr J. McGovern (9); Parish of Avondale—Ballgreon, Mr A. Fleming (1); Barnoek, Mrs Ramsay (1); Crosshill, Mr J. Millar (1); St Patrick's, R. C., Miss C. Martens (1); Parish of Biggar—High School, Biggar, Mr J. Young (1); Parish of Blantyre—High, Mr D. Dunlop (15); Low, Mr J. Mess (15); Auchinraith, Mr J. Welsh (15); Parish of Bothwell—Bellshill, Mr A. J. Noble (7); Bellshill Academy, Mr J. Donaldson (7); Bothwell, Mr J. M. Crowe (7); Carfin, Mr Thomas Law (7); Carnbroe, Mr J. MacDonald (7); Chapelhall, Mr T. Dymock (7); Hamilton Palace Colliery, Mr G. S. McCallum (7); Mossend, Mr W. R. Archibald (7); New Stevenston, Mr J. Patrick (7); Mossend, R. C., Miss M. Myles (7); Parish of Cadder—Auchinloch, Mr L. Boyd (12); Bishopbriggs, Mr H. Anderson (12); Cadder, Mr T. H. Collier (12); Gartcosh, Mr W. Findlay (12); Lochfauld, Miss M. Smith (12); Stepps Road, Mr A. H. Hunter (12); Parish of Calderhead—Allanton, Mr P. Lorne (8); Calderhead, Mr Heard (8); Dykehead, Mr J. C. Miller (8); Shotts, St Patrick's, R. C., Mr J. B. Daniel (8); Parish of Cambuslang—Hallside, Mr A. Brown (15); Kirkhill, Mr R. Templeton (15); Newton, Mr A. Stevenson (15); Parish of Cambusnethan—Berryhill, Mr R. Dey (4); Cambusnethan, Mr A. Lawrie (4); Overtown, Miss J. Robertson (4); Waterloo, Mr G. R. Dick (4); Wishaw, Mr J. Ingram (4); Newmains, Mr R. Hunter (4); Parish of Carluke—Braidwood, Mr J. Miller (3); Carluke, G. and I., Miss Shollbred (3); Kilncadzow, Mr R. Findlater (3); Market Place, H. G., Mr J. K. Barr (3); Yieldshields, Mr A. Miller (3); Parish of Carmichael—Carmichael, Mr J. Aitken (1); Parish of Carmunnock—Carmunnock, Mr Alexander Rankin (14); Parish of Carnwath—Auchengray, Mr J. M. Cooke (2); Brachead, Mr W. Messer (2); Carnwath, Mr G. C. Murray (2); Forth, Mr M. Yates (2); Haywood, Mr A. McIntosh (2); New Bigging, Miss J. Dunlop (2); Wilsontown, Mr F. P. Wellwood (2); Parish of Carstairs—Carstairs, Mr S. J. Somerville (2); Caledonian Railway Company's, Mr W. A. Russell (2); Parish of Clarkston—Airdriehill, Mr J. McLuckie (9); Drumbreck, Mr J. Millar (9); Longrigg, Mr D. S. Masterton (9); Longriggend, Miss Grant (9); Parish of Covington and Thankerton—Covington, Mr G. Dickson (1); Parish of Crawford—Crawford, Mr J. Murray (1); Daer and Powtrail, Miss C. Dunlop (1); Summit, Mr G. Haddow (1); Parish of Crawfordjohn—Crawfordjohn, Mr J. H. Henderson (1); Whitecleuch, Mr A. Porteous (1); Parish of Culter—Culter, Mr J. Walker (1); Parish of Dalziel—Craigneuk, Mr G. T. Brough (6); Dalziel, Mr W. Fordyce (6); Hamilton Street, Mr D. F. Macmillan (6); High, Mr D. Greig (6); Merry Street, Mr A. Macdonald (6); Milton Street, Mr J. Stalker (6); Muir Street, Mr J. Graham (6); Craigneuk, R. C., ? (6); Motherwell, R. C., Mr G. Bennett (6); Parish of Dolphinton—Dolphinton, Mr C. McKenzie (2); Parish of Douglas—Douglas, Mr C. C. Riach (1); Stablestone, Mr D. McKay (1); Parish of Douglas Water—Douglas Water, Mr E. Waddell (1); Parish of Dunsyre—Dunsyre, Mr J. Miller (2); Parish of East Kilbride—Auldhouse, Mr J. Auld (3); East Kilbride, Mr J. T. Thom (3); Jackton, Mrs J. G. Eaglesome (3); Maxwellton, Mr W. Russell (3); Parish of Glassford—Chapelton, Mr G. Shearer (3); Glassford, Mr T. Lang (3); Parish of Glasgow (Burgh)—Abbotsford, Mr T. C. Anderson (13); Adelphi Terrace, Mr F. W. Grant (13); Alexander's, Mr W. Jamieson (13); Alexandra Parade, Mr John Clanachan (13); Anderston, Mr P. McD. Andrew (13); Annfield, Mr Andrew Hoy (13); Barrowfield, Mr D. Gilchrist (13); Bishop Street, Mr Adam Miller (13); Calton, Mr W. A. Davidson (13); Camlachie, Miss J. Morrison (13); Camden Street, Mr W. Fleming (13); Campbellfield, Mr W. Scott (13); Crookston Street, Mr A. Miller (13); Dalmarnock, Mr W. McIntyre (13); Dennistown, Mr J. Gibson (13); Dobbies Loan, Mr H. Muir (13); Dove Hill, Mr Robert Crawford (13); Dunard Street, Mr J. Wood (13); Finnieston, Mr J. Knox (13); Elmvale, Mr J. Buist (13); Freeland, Mr T. Smith (13); Garnetbank, Mr W. W. Russell (13); Gorbals, Mr Robert Edgar (13); Greenside Street, Mr R. Reid (13); Grove Street, Mr F. Connor (13); Henderson Street, Mr John Middleton (13); Hozier Street, Mr Hugh Cameron (13); Kay, Mr W. S. Jamieson (13);

Kelvinhaugh, Mr W. Lee (13); Kent Road, Mr R. J. Wilson (13); Kent Road H. G., ? (13); Keppochhill, Mr W. Young (13); Martyrs', Mr W. M. Cullen (13); Napiers Hall, Mr J. B. Freebairn (13); Oakbank, Mr J. Whyte (13); Oatlands, Mr J. A. J. Watt (13); Overnewton, Mr David Picken (13); Petershill, Mr John T. Smith (13); Provanside, Mr W. Marshall (13); Queen Mary Street, Mr John Robertson (13); Rose Street, Mr A. L. Smith (13); Rumford Street, Mr John Hay (13); St David's, Mr Hector Dove (13); St George's Road, Mr W. A. Thompson (13); St James', Dr Knight (13); St Rollox, ? (13); Shield's Road, Mr H. McCallum (13); Sir John N. Cuthbertson's, Mr C. S. Ogilvie (13); Springbank, Mr R. Gilfillan (13); Springburn, Mr Jos. Routledge (13); Springfield, Mr J. Brown (13); Townhead, Mr Thos. Lindsay (13); Washingtou Street, Mr J. Glen (13); Well Park, Mr G. Stewart (13); Willowbank, Mr R. Edgar (13); Wolseley Street, Mr J. D. Robertson (13); Buchanan Institution, Mr A. McLaren (13); Normal Practising, Mr J. Beveridge (13); Our Lady and St Francis, R. C., ? (13); St Joseph's, R. C., Mr W. Lornax (13); St Mary's Epis., Mr G. Harrison (13); Parish of Govan—Bellahouston Academy, Mr D. McGillivray (13); Broomloan Road, Mr J. A. McIntosh (13); Dowanhill, ? (13); Fairfield, Mr B. Hutchison (13); Govanhill, ? (13); Greenfield, Mr A. McLeod (13); Harmony Row, Mr Joseph Scott (13); Kinning Park, Mr T. Brodie (13); Partick, Church Street, Mr Purdie (13); Partick, Hamilton Crescent H. G., Mr S. Fraser (13); Partick, Rosevale Street, Mr D. Taylor (13); Partick, Stewartville, Mr J. Main (13); Partick, Thornwood, Mr W. C. Lindsay (13); Pollokshields, Albert Road, Mr G. S. Brown (13); Polmadie, Mr W. Drummond (13); Rutland Crescent, ? (13); Whiteinch, Mr W. Greenhorn (13); St Saviour's, R. C., Mr T. O'Connor (13); Parish of Hamilton (Burgh)—Academy, Mr D. MacLeod (5); Elementary, Miss Baird (5); Beckford Street, Mr M. Blair (5); Bent Road, Mr W. Hamilton (5); Townhead, Mr J. McCabe (5); St John's Grammar, Mr J. Hendrie (5); Parish of Hamilton (Landward)—Beechfield, Miss Smith (5); Ferniegair, Mr J. Dunn (5); Glenlee, Mr R. Steele (5); Greenfield, Mr J. Blyth (5); Low Waters, Mr R. Muir (5); Quarter, Miss Marshall (5); Cadzow, Mr P. McGall (5); Parish of Lanark (Burgh)—Burgh, Mr A. Johnstone (2); Grammar, Mr H. Henderson (2); Parish of Lanark (Landward)—Nemphlar, Miss J. Millar (2); New Lanark, Mr J. McLatchie (2); Smyllum, R. C., Sisters of Charity (2); Smyllum Bliud and Deaf Mutes, Sisters of Charity (2); Parish of Larkhall—Academy, Mr C. W. Thomson (3); Duke Street, Mr James Frame (3); Glengowan, Mr J. Paterson (3); Muir Street, Mr J. A. Beattie (3); Parish of Lesmahagow—Auchinheath, Mr J. L. Tait (1); Bellfield, Mr J. Weir (1); Blackwood, Mr William Martin (1); Kirkfield Bank, Mr J. Dunlop (1); Lesmahagow Senior, Mr M. Glover (1); Lesmahagow Junior, Miss Grierson (1); Waterside, Mr R. Gibson (1); Parish of Libberton—Libberton, Mr W. B. Smellie (2); Parish of Maryhill—Gairbraid, Mr J. Simpson (13); North Kelvinside, Mr D. M. Cowan (13); East Park, Mr Ross (13); Possil Park, ? (13); Parish of New Monkland—Avonhead, ? (10); Gain, Mr J. Kiddie (10); Greengairs, Mr J. Artbur (10); New Monkland, Mr T. Philip (10); Riggend, Mr J. Roger (10); Roughrigg, Mr J. Gorman (10); Parish of Old Monkland—Baillieston, Mr R. Hunter (11); Blairhill, Mr J. Pickin (11); Calderbank, Mr J. Russell (11); Coatbridge H. G., Mr W. Service (11); Coatbridge, Langloan, Mr H. B. Sergeant (11); Mount Vernon, Mr R. Young (11); Old Monkland, Mr J. Laurence (11); West Maryston, Mr J. Gibson (11); Whifflet, Mr Charles B. Noble (11); Coatbridge St Patrick's, R. C., Mr J. Bonner (11); Whifflet, R. C., Mr J. Casey (11); Parish of Pettinain—Pettinain, Mr E. Anderson (2); Parish of Rutherglen (Burgh and Laudward)—Burgh, Mr Henry C. Jack (14); Eastfield, Mr W. Forsyth (14); Farie Street, Mr J. F. Scott (14); MacDonald's, Mr George Kerr (14); Parish of Shettleston—Millerston, Mr W. Thomson (11); Shettleston, Mr McHaffie (11); Tolleross, Mr J. Mair (11); Parish of Shotts—Northrigg, Miss S. McLeod (8); Shotts, Mr A. Paterson (8); Parish of Springburn—Wellfield, Mr J. Brown (12); Parish of Stonehouse—Greenside, Infant, Miss E. Black (3); Sandford, Miss Sutherland (3); Townhead, Mr A. McIntosh (3); Parish of Wandell and Lamington—Lamington, Mr D. S. Melville (1); Lamington, Female and Infant, Miss H. H. Allan (1); Parish of Wiston and Roberton—Roberton, Mr J. Waddell (1).

COUNTY OF LINLITHGOW.

Parish of Abercorn—Abercorn, Mr A. Hardie (48); Abercorn, Girls, Miss M. Wilson (48); Parish of Bathgate (Town)—Bathgate, Mr J. H. Wheelaw (49); Bathgate Academy, Mr H. Dunn (49); Parish of Bathgate (Landward)—Starlaw, Miss Wardrop (49); Parish of Bo'ness and Carriden—Bo'ness, Mr J. Dunlop (48); Bo'ness Anderson Academy, Mr W. Gladstone (48); Bo'ness, Infant, Miss A. Brown (48); Borrowstown, Mr Jas. Boyd (48); Carriden, Mr Wm. Andrew (48); Grangepans, Mr E. Nelson (48); Kinneil, Mr J. Hunter (48); Blackness, Miss B. Morrison (48); Bo'ness St Mary's, R. C., ? (48); Parish of Dalmeny—Dalmeny, Mr J. W. Sinton (48); Parish of Ecclesmachan—Craigbinning, Mr J. B. Inglis (48); Parish of Kirkliston—Kirkliston, Mr Jas. Brown (48); Newhouses, Miss M'Knight (48); Winchburgh, Mr W. Fowler (48); Parish of Linlithgow—Linlithgow Academy, Mr J. Beveridge (48); Linlithgow, Mr Jas. Forbes (48); Parish of Livingstone—Blackburn, Mr W. Stewart (48); Livingstone, Mr J. Robertson (48); Seafield, Mr M. Gray (48); Parish of Torphichen—Blackridge, Mr R. M. Brown (49); Torphichen, Mr Menzies (49); Parish of Uphall—Broxburn, Mr J. P. Cleghorn (48); Uphall, Mr J. S. Calder (48); Hatton, Infant, Miss Kinnear (48); Parish of Whitburn—East Benhar, Mr R. Macdonald (49); Longridge, Mr T. Sutherland (49); Stoneyburn, Mr J. Steele (49); Whitburn, Mr W. Thomson (49).

COUNTY OF NAIRN.

Parish of Ardelach—Campbell's, Mr D. Fraser (90); Fornighty, Miss E. D. Hall (90); Parish of Auldearn—Auldearn, Mr T. H. Rutherford (89); Moyness, Miss E. J. Garden (89); Parish of Cawdor—Barivan, Miss A. Aird (89); Cawdor, Mrs A. Allen (89); Clunas, Miss Barbour (89); Burgh of Nairn—Monitory, Mr R. Jamieson (89); Parish of Nairn (Landward)—Delnies, Miss J. Penny (89); Geddes, Mr J. Aird (89).

COUNTY OF ORKNEY.

Parish of Cross and Burness—Burness, Mr J. M. Gunu (109); Cross, Miss M. J. Stout (109); North Ronaldshay, Mr C. B. Robertson (109); Parish of Eday—South, Mr J. Carrell (109); Parish of Evie and Rendall—Gairsay, Miss J. D. M'Ewan (109); Rendall, Mr W. Wylie (109); Parish of Firth and Stennis—Firth, Mr W. Mackay (109); Stennis, Mr F. S. Scott (109); Parish of Harray and Birsay—Birsay, Mr Geo. S. Duthie (109); Harray, Mr P. M'Cullie (109); Hundland, Mrs Maxullie (109); Parish of Holm—East, Miss E. Sheridan (109); West, Mr J. Inkster (109); Parish of Hoy and Graemsay—Graemsay, Mrs M. S. Campbell (109); Hoy, Mr Rendall, (109); Raekwick, Miss M. T. Moat (109); Burgh of Kirkwall—Kirkwall, Mr J. M'Ewen (109); Parish of Kirkwall (Landward) and St Ola—Scalpa, Miss J. S. Scott (109); Parish of Lady—Lady, Central, Mr J. Garioch (109); Sellibister, Mr R. Clelland (109); Parish of Orphir—Kirbister, Mr J. Omond (109); Orphir, Mr P. L. Muir (109); Parish of Rousay and Egilshay—Egilshay, Mr W. M. Glen (109); Frotoft, Miss B. Norquay (109); Sourin, Miss J. Marwick (109); Veira, Miss M'Kenzie (109); Wasbister, Miss M. W. Wards (109); Parish of St Andrews and Deerness—Deerness, Mr M. Spence (109); Tonkerness, Mr S. Thompson (109); Parish of Sandwick—North, Mr J. S. Robertson (109); Yesnaby, Miss M. Spence (109); Parish of Shapinsay—Shapinsay, Mr J. Craigie (109); do. North, Miss J. R. Hamilton (109); Parish of South Ronaldshay and Burray—Burray, Mr A. M'Callum (109); Hope, Mr G. Barclay (109); Tomisons, Mr Cruiekshank (109); Widewall, Mr D. M'Cormack (109); Parish of Stromness—Kirbuster, Mr H. R. T. Miller (109); Stromness, Mr D. Hepburn (109); Parish of Stronsay—Central, Mr R. T. Annand (109); North, Female and Infant, Mrs M. L. Tolmie (109); South, Fem., Miss M. Calder (109); Parish of Walls and Flotta—Brims, Miss M. C. Johnston (109); Flotta, Mr A. Forbes (109); North Walls, Miss J. Sinclair (109); South Walls, Mr J. A. Davidson (109); Parish of Westray and Papa Westray—East Side (Skelwick), Miss J. M. Shurie (109); Papa Westray, Miss M'Conachie (109); Pierowall, Mr J. S. Sutherland (109); West Side (Midbea), H. Stevenson (109).

COUNTY OF SHETLAND.

Parish of Bressay—Bressay, Mr W. G. A. Morgan (110); Parish of Delting—Brae, Mr J. H. Moodie (110); Gonfirth, Miss A. C. McPherson (110); Mid Lee, Mr T. Hanton (110); Olnafirth, Mr D. Fraser (110); Roe, Mr A. Falconer (110); Parish of Dunrossness—Boddam, Miss Morrison (110); Fairisle, Mr D. McLean (110); Quendale, Mr M. R. Johnstone (110); Virkie, Mr H. H. Gear (110); Parish of Fetlar—Fetlar, Mr B. Alexander (110); Parish of Lerwick—Gulberwick, Miss I. Innes (110); Lerwick, Central, Mr W. M. Wightman (110); Anderson Educational Institute, Miss Morrison (110); Quarff, Miss M. J. Henderson (110); Parish of Nesting, Lunnasting, Whalsay and Skerries—Laxfirth, Miss C. Hutchison (110); Lunnasting, Mr A. G. McMichen (110); Whalsay (Borough), Mr H. White (110); Skerries, Mr Geo. Mackay (110); Parish of Northmavine—Eshaness, Miss E. McNicoll (110); North Roe, Mr R. S. Bremner (110); Sullom, Miss M. Calderwood (110); Urafirth, Miss J. Nicolson (110); Parish of Sandsting and Aithsting—Gruting, Mr J. S. Peterson (110); Skeld, Mr H. Mackay (110); West Burrafirth, Mr H. Arthur (110); Parish of Tingwall, Whiteness and Weisdale—Girlsta, Miss J. A. Jamieson (110); Scalloway, Mr W. Robertson (110); Trondra, Miss L. Inkster (110); Weisdale, Mr E. M. Henderson (110); Parish of Unst—Baltasound, Mr D. J. Henderson (110); Haroldswick, Miss M. A. Stephen (110); Uyasound, Miss M. A. Harrison (110); Westing, Mr J. Gifford (110); Parish of Walls, Sandness, Papa and Foula—Dale, Mr J. D. Robertson (110); Foula, Mr P. Henderson (110); Happyhansel, Mr J. Dalziel (110); Parish of Yell—Burravoe, Mr H. Robb (110); Gutcher, Mrs Hoseason (110); Ulsta, Miss M. A. Esson (110); West Yell, Mr J. H. Smith (110).

COUNTY OF PEEBLES.

Parish of Drumelzier—Drumelzier, Mr W. T. C. McIntosh (41); Parish of Innerleithen—Innerleithen, Mr T. Weir (41); Leithenhope, Miss Smith (41); Walkerburn, Mr George Hardie (41); Parish of Kilbucho, Broughton, and Glenholm—Broughton, Central, Mr Hogg (41); Glenholm, Miss Hall (41); Parish of Newlands—Lamancha, Mr W. Kyle (41); Newlands, Mr W. Mackie (41); Parish of Peebles—Peebles, Mr James Tod (41); Halyrude, Miss Murray (41); Parish of Stobo—Stobo, Mr A. Jervies (41); Parish of Traquair—Traquair, Mr A. Menzies (41); Kirkburn, Miss M. T. Fraser (41); The Glen, Miss Dewar (41); Parish of Tweedsmuir—Tweedsmuir, Mr J. Yellowlees (41); Parish of West Linton—West Linton, Mr J. Halley (41); West Linton Episcopal, Miss Lyrie (41).

COUNTY OF PERTH.

Parish of Abernethy—Abernethy, Mr A. Davidson (58); Parish of Abernyte—Abernyte, Mr J. F. Falconer (68); Parish of Alyth—Alyth, Mr D. B. Lawson (70); Gauldswell, Miss E. Fraser (70); Parish of Amulree—Amulree, Mr M. Black (71); Shian, Miss Cameron (71); Parish of Ardoch—Braco, Mr T. B. MacOwan (59); Parish of Arngask—Arngask, Mr J. Wilson (58); Parish of Auchterarder—Aberuthven, Mr J. McMath (58); Auchterarder, Mr D. Arkley (58); Parish of Auchtergaven—Auchtergaven, Mr D. Munro (71); Stanley, Mr J. Cameron (71); Parish of Balquhidder—Balquhidder, Mr William Beattie (59); Lochearnhead, Mr D. McDonald (59); Strathyre, Mrs McGechan (59); Parish of Blackford—Blackford, Mr W. McFarlane (59); Gleneagles, Mr R. Guthrie (59); Tullibardine, Mr L. A. Tovani (59); Parish of Blair Atholl—Blair Atholl, Mr A. Kellock (76); Glenerichty, Miss M. C. Macdonald (76); Pittagowan, Miss A. Reid (76); Strathtummel, Miss M. Livingstone (76); Parish of Blairgowrie—Blairgowrie, Mr R. Robb (70); Parish of Blairingone—Blairingone, Mr A. R. Morrice (51); Parish of Callander—Callander, Mr R. Fulton (59); Parish of Caputh—Spittalfield, Mr McMurtrie (71); Wester Caputh, Miss J. F. Smith (71); Meikleour, Mr G. F. Tennant (71); Parish of Cargill—Burreltown,

Mr G. Robertson (70); Newbigging, Mr J. S. Halliburton (70); Parish of Clunie—Clunie, Mr J. Young (70); Parish of Collace—Collace, Mr G. H. Dale (70); Parish of Comrie—Comrie, Mr J. Goldie (58); Glenartney, Miss Anderson (58); Glenlednock, Miss Findlay (58); St Fillans, Mr G. Elder (58); Parish of Coupar Angus—Coupar Angus, Mr G. W. F. Strain (68); Parish of Crieff—Crieff, Mr J. H. Brown (58); Monzie, Mr A. G. Graham (58); Taylor's Institution, Mr G. Pollock (58); St Dominic's, R. C., Miss Doherty (58); Parish of Dron—Dron, Mr A. S. Carnegie (58); Parish of Dull—Aberfeldy, Mr A. Grieve (71); Dull, Mr J. E. Adamson (71); Foss, Miss Alice Barr (71); Styx, Miss Mary McDonald (71); Parish of Dunblane and Leeropt—Dunblane, Mr A. Hamilton (59); Leeropt, Miss J. Duff (59); Dunblane, St Mary's Episcopal, Miss Walker (59); Parish of Dunkeld and Dowally—Butterstone, Miss J. Reid (71); Dowally, Mr M. Chalmers (71); Dunkeld, Royal, Mr G. R. Croll (71); Parish of Dunning—Dunning, Mr W. Kerr (58); Parish of Errol—Errol, Mr W. Reid (68); Glendoick, Mr R. Strathdee (68); Errol, Female and Industrial, Miss C. B. Taylor (68); Parish of Findo Gask—Findo Gask, Mr A. Wanless (58); Parish of Forgandenny—Forgandenny, Mr T. Moffat (58); Parish of Forteviot—Forteviot, Mr W. Sprunt (58); Path of Condie, Mr A. Hossack (58); Parish of Fortingall—Fortingall, Mr J. Simpson (71); Parish of Fowlis Wester—Balgowan, Miss M. Barclay (71); Buchanty, Glenaldmond Subscription, Miss Young (71); Parish of Gartmore—Gartmore, Mr Menzies (59); Parish of Glendevon—Glendevon, Mr W. N. Russell (51); Parish of Inchture—Inchture, Mr T. S. Nicolson (68); Parish of Kenmore—Acharn, Mr D. Ewan (71); Ardtalnaig, Miss M. Ross (71); Fearnan, Miss Roberts (71); Kiltyrie, Mr A. Cameron (71); Lawers, Mr W. Davie (71); Parish of Killin—Creanlarich, Mr H. M. Smith (71); Glendochart, Mr R. Paterson (71); Killin, Mr J. Steven (71); Strathfillan, Miss Matthews (71); Parish of Kilmadock—Deanston, Mr K. S. Murray (59); Drumvaich, Miss J. C. Hislop (59); Kilmadock (Doune), Mr N. C. Merrie (59); Parish of Kilspindie—Kilspindie, Mr G. Nish (68); Parish of Kincardine—Blair Drummond, Miss Innes (59); Kincardine, Mr W. Kilgour (59); Thornhill, Mr J. G. Horne (59); Parish of Kinclaven—Kinclaven, Mr J. Foster (70); Parish of Kinfauns—Kinfauns, Mr J. Sprunt (68); Parish of Kinloch-Rannoch—Auchtarsin, Mr D. Campbell (76); Georgetown, Mr P. McLaren (76); Parish of Kinnaird—Kinnaird, Mr J. Fairweather (68); Parish of Kirkmichael—Glenshee, Mr W. Richmond (76); Parish of Lethendy and Kinloch—Kinloch, Mr J. Arnott (70); Parish of Little Dunkeld—Balnaguard, Miss Wilson (71); Drumour, Miss Forbes (71); Murthly and Airntully, Mr W. Sprunt (71); Parish of Logie Almond—Logicalmond, Mr J. Stalker (71); Parish of Logierait—Logierait, Mr J. Kennedy (71); Grandtully, Lady Stewart's, Miss Mitchell (71); Parish of Longforgan—Longforgan, Mr R. Dow (68); Parish of Maderty—Maderty, Mr W. Forbes (58); Parish of Meigle—Meigle, Mr J. Butter (68); Parish of Methven—Almondbank, Mr J. Paterson (71); Methven, Mr D. M. Carmichael (71); Parish of Moulin—Straloch, Miss A. A. Howe (76); Parish of Muckart—Muckart, Mr D. M. Hall (51); Parish of Muthill—Drummond Street, Mr T. A. Donald (58); Parish of Persie—Blackwater, Mr W. M. Smith (70); Stronc of Callie, Mr A. Croll (70); Drimmie Burn, Miss J. J. Grant (70); Parish of Perth (Burgh)—Caledonian Road, Mr D. S. Lowson (69); Central District, Mr W. Paterson (69); Craigie (Western District), Mr W. Barclay (69); Kinnoull, ? (69); Northern District (Balhousie), Mr D. Walker (69); Southern District, Mr J. Clacher (69); St Ninian's Episcopal, Miss Keith (69); Sharp's Institution, ? (69); Parish of Perth, East (Landward)—Craigend, Miss J. Adamson (69); Tulloch, Miss J. E. Scott (69); Parish of Port of Montcith—Dykehead, Mr S. Lardner (59); Port of Montcith, Mr E. Maclean (59); Parish of Redgorton—Redgorton, Mr W. K. Anderson (70); Parish of Rhynd—Rhynd, Mr J. West (58); Parish of St Martin's—Guildtown, Mr J. Meldrum (70); Parish of Scone—New Scone, Mr D. Sutherland (70); Stormontfield, Miss J. D. Jamie (70); Parish of Tenandry—Aldgirnaig, Mr T. McGlashan (76); Glenfincastle, Mr E. M. McLean (76); Parish of Tibbermore—Tibbermore, Mr R. H. Meldrum (70); Parish of Trinity Gask—Trinity Gask, Mr A. Murray (58); Parish of Trossachs—Trossachs, Mr A. C. Macdonald (59); Parish of Weem—Weem Central, Mr J. P. McAlpine (71).

COUNTY OF RENFREW.

Parish of Cathcart—Cathcart, Mr A. Wylie (14); Crossmyloof, ? (14); Queen's Park, ? (14); Busby St Joseph's, R. C., Miss A. Rattray (14); Parish of Eastwood—Pollokshaws, Sir J. Maxwell's, Mr J. Prentice (16); Shawlands Academy, Mr Macnab (16); Thornliebank, Mr J. S. Conner (16); Parish of Erskine—Erskine, Mr J. M. Duncan (21); Undercraig, Mr J. M. Wilkie (21); Parish of Greenock (Burgh)—Ardgowan, Mr A. Brenner (24); Belville Place, Mr M. Carmichael (24); Glebe, Mr John Wilson (24); Highlanders Academy, Mr R. Wilson (24); Hillend, Mr James Watson (24); Holmscroft, Mr William Cook (24); Mearns Street, Mr Andrew Young (24); St Andrews Square, Mr A. K. Macdonald (24); Shaw Street, Mr W. B. Ingram (24); West St John's Episcopal, Mr E. Murray (24); Parish of Greenock East (Landward) and Port Glasgow (Landward)—Ladyburn, Mr W. Lees (21); Parish of Houston and Killellan—Houston, Mr A. More (17); St Fillan's, R. C., ? (17); Parish of Inverkip—Inverkip, Mr J. Lang (23); Parish of Kilbarchan—Kilbarchan, Mr M. Mycroft (17); Linwood, Mr J. Macfie (17); Parish of Kilmalcolm—Kilmalcolm, Mr W. L. Walker (21); Parish of Levern—Levern, Mr J. Wood (16); Parish of Lochwinnoch—Glenhead, Mr M. P. Holmes (17); Howwood, Mr J. Thomson (17); Lochwinnoch, Mr J. Millar (17); Parish of Mearns—Busby, Mr T. Russell (16); Mearns, Mr J. S. Downie (16); Parish of Neilston—Barrhead, Mr A. Rodger (17); Grahamston, Mr H. R. Dalziel (17); Neilston, Mr Doak (17); Uplawmuir, Mr D. G. Nicolson (17); St Thomas, R. C., Miss J. Whyte (17); Parish of Paisley (Burgh)—Ferguslie, Mr R. Ferguson (18); North, Mr A. Fairlie (18); South, Mr W. Taylor (18); South, Infant Dept., Miss M^{c}Nair and Miss M^{c}Andrew (18); West, Mr G. Dick (18); Oakshaw, Mr D. Smith (18); Neilson Educational Inst., Mr J. G. Thomson (18); Parish of Paisley (Landward)—Cardonald, Mr J. Wallace (20); Inkerman, Mr A. Brown (20); Nethercraigs, Mr J. Cochran (20); Parish of Port Glasgow (Burgh)—Chapelton, Mr M. A. R. Munro (21); Clune Park, Mr D. Dryborough (21); Parish of Renfrew (Landward)—Oswald, Mr R. M^{c}Kechnie (19); Scotstown, Mr J. M^{c}Kean (19); Yoker, Mr J. Barr (19).

COUNTY OF ROSS AND CROMARTY.

Parish of Alness—Boath, Miss P. Cumming (93); Parish of Applecross—Aligin, Mr A. Macphail (99); Applecross, Mr J. D. Matheson (99); Arinacrinachd, Mr D. Mackenzie (99); Dibaig, Mr G. P. MacMartin (99); Shieldaig, Miss H. Mackenzie (99); Torridon, Miss G. Ironside (99); Parish of Avoch—Avoch, Mr D. F. Fleming (93); Killen, Mr M^{c}Donald (93); Parish of Barvas—Barvas, Mr J. Campbell (108); Bragar, Mr T. S Rennie (108); Lionel, Mr J. M^{c}Kay (108); Skigersta, Mr M. Maclean (108); Parish of Carnoch—Strathconan, Mr G. Lang (93); Parish of Contin—Scatwell, Mr J. Davidson (93); Parish of Cromarty—Peddieston, Mr W. S. Stevenson (93); Parish of Dingwall—Dingwall Academy—Mr M^{c}Donald (93); Parish of Fearn—Balmuchy, Mr J. Mackintosh (95); Hilton, Mr J. Watt (95); Parish of Fodderty—Fodderty, Mr J. M^{c}C. Duthie (93); Maryburgh, Mr D. Mackay (93); Parish of Gairloch—Achtercairn, Mr G. H. T. Milne (99); Bualnaluib, Mr R. C. G. Rose (99); Inverasdale, Mr A. Polson (99); Kinlochewe, Miss M. M. Band (99); Laide, Miss B. Summers (99); Mellon Udrigle, Mr J. M. Summers (99); Melvaig, Mr J. M^{c}Lennan (99); Pool ewe, Miss M. Campbell (99); Sand, Mrs Calder (99); Parish of Glenshiel—Letterfearn, Mr T. Purdie (99); Shiel, Miss J. A. Maclean (99); Parish of Killearnan,—Killearnan, Mr W. M^{c}Intosh (93); Tore, Miss H. Macdonald (93); Parish of Kilmuir Easter—Kilmuir Easter, Mr T. G. Meldrum (95); Tullich, Miss J. Mackenzie (95); Parish of Kincardine,—Achnahannet, Mr J. A. Fothergham (96); Loubcroy, Miss Lily Banks (96); Gledfield, Mr G. G. Macleod (96); Parish of Kinloch Luichart—Kinloch Luichart, Mr D. Macrae (93); Strathgarve, Miss Cram (93); Achnasheen, Mr D. Duff (99); Parish of Knockbain—Munlochy, Mr W. Harvey (93); Upper Knockbain, Mr J. Forbes (93); Arpafeelie, St John's Epis., Mr J. A. Clement (93); Parish of Lochalsh—Auchmore, Miss J. Mackay (99); Lochalsh, Mr D. Macrae (99); Plockton, Mr J. Sorley (99); Parish of

Lochbroom—Achiltibuie, Mr D. Urquhart (99); Altando, Mr M. Gray (99); Ardindrean, Mr W. Mackenzie (99); Auchduart, Mr K. McLeod (99); Badcaul, Mr J. Haggarty (99); Lochbroom, Miss Lang (99); Scoraig, Miss M. A. Rae (99); Strathcannaird, Miss C. Mackenzie (99); Tanera, Mr K. McLeod (99); Ullapool, Mr J. Cameron (99); Parish of Lochcarron—Attadale, Miss A. McLeish (99); Balnacra, Mr M. Ross (99); Craig, Miss H. Butter (99); Strome, Mr T. Fowler (99); Parish of Lochs—Achmore, Mr M. McKenzie (108); Airidhbhruaich, Miss A. McLeod (108); Balallan, Mr P. Clemenson (108); Cromore, Mr Given (108); Fidigary, Mr A. G. Burns (108); Gravcr, Mr J. Maciver (108); Grimshader, Miss A. Martin (108); Kershader, Mr J. Blyth (108); Knock-ian-duc, Mr R. Paterson (108); Lurebost, Mr D. Gunn (108); Planasker, Mr W. Kerr (108); Parish of Logie Easter—Scotsburn, Mr R. H. Boue (95); Parish of Nigg—Nigg, Mr A. Urquhart (93); Pitcalnie, Mr C. Campbell (93); Parish of Resolis—Cullicudden, Mr K. Kemp (93); Newhall, Mr F. R. S. Black (93); Parish of Rosemarkie—Fortrose Academy, Mr C. Laverie (93); Rosemarkie, ? (93); Parish of Rosskeen—Invergordon, Mr W. D. Kennedy (95); Strathrusdale, Miss W. C. Ritchie (95); Parish of Stornoway—Laxdale, Mr D. Clark (108); Nicolson, Mr W. J. Gibson (108), Tolsta; Mr J. Gowans (108); Tong, Mr S. Murray (108); Parish of Tain—Inver, Miss M. S. McKenzie (95); Tain, Mr D. Murray (95); Parish of Tarbat—Old, Mr J. Ewing (95); West, Mr Geo. Ross (95); Parish of Uig—Bernera, Mr J. N. Macleod (108); Breasclet, Mr J. Smith (108); Carloway, Mr R. MacDonald (108); Crowlista, Mr A. H. Stapley (108); Crulivig, Miss A. Macdonald (108); Dun Carloway, Mr F. Smith (108); Isilvig, Mr Macdonald (108); Parish of Urquhart and Logiewester—Conon, Mr W. McLennan (93); Culbokie, Mr W. Fowler (93); Ferintosh, Mr W. Campbell (93); Mulbuie, Mr T. McKenzie (93); Parish of Urray—Marybank, Mr A. J. Forbes (93); Tarradale, Mr K. McLean (93).

COUNTY OF ROXBURGH.

Parish of Ancrum—Ancrum, Mr A. Kennedy (39); Saudystones, Mr T. Mainland (39); Parish of Bedrule—Bedrule, Mr R. W. Ritchie (39); Parish of Bowden—Bowden, Mr J. B. Glen (39); Midlem, Miss Kennedy (39); Parish of Castleton—Riccarton, Miss H. Cunningham (37); Parish of Cavers and Kirkton—Cogsmill, Mr G. M. Skea (38); Denholm, Mr A. Oliver (38); Kirkton, Mr J. Turnbull (38); Parish of Crailing—Crailing, Mr G. Fargie (39); Parish of Eckford—Caverton Mill, Mr W. G. Sanson (39); Parish of Edgerston—Edgerston, Mr Jas. Lawson (39); Parish of Ednam—Ednam, Mr D. Priugle (39); Hawick (Burgh)—Buccleuch, Mr W. Pitcairn (38); Drumlanrigg, Mr J. Fower (38); St Mary's Infant, Miss Barnett (38); Roman Catholic, Miss Butter (38); St Cuthbert's Episcopal, Mr D. Gillis (38); Parish of Hawick (Landward)—Clarilaw, Mr D. McConnachie (38); Dean, Mr A. Turnbull (38); Newmill, Mr W. Robb (38); Stouslie, Mrs Watt (38); Parish of Hobkirk—Hobkirk, Mr J. Culbertson (39); Jedburgh (Burgh)—Grammar, Mr J. M. Archibald (39); St John's Episcopal, Mr A. Sutcliffe (39); Parish of Jedburgh (Landward)—Lanton, Mr A. Pringle (39); Pleasants, Mr T. Clark (39); Parish of Kelso—Kelso, Mr A. B. Fisher (39); Parish of Lilliesleaf—Lillicsleaf, Mr A. Birrell (39); Parish of Linton—Linton, Mr J. Cook (39); Parish of Makerstoun—Makerstoun, Mr Galloway (39); Parish of Maxton—Maxton, Mr T. Boyd (39); Parish of Melrose—Blainslie, Mr A. Bennet (39); Gattonside, Miss Bella Dodd (39); Langshaw, Miss Sanderson (39); Melrose, Mr T. Ingram (39); Newstead, Mr J. C. Bowers (39); Newtou St Boswells, Mr J. Robertou (39); Parish of Minto—Minto, Mr A. Harvey (39); Parish of Morebattle—Morebattle, Mr Jas. Henderson (39); Mowhaugh, Mr M. A. R. Downs (39); Parish of Oxnam—Towford, Miss Ellen Jolly (39); Parish of Roberton—Howpasley, Miss W. Innes (38); Roberton, Mr T. Wilson (38); Parish of Roxburgh—Fairnington, Mr W. Henderson (39); Roxburgh, Mr R. Whitcford (39); Parish of St Boswells—St Boswells, Mr W. McDonald (39); Parish of Smailholm—Smailholm, Mr John Brown (39); Parish of Southdean—Glen Douglas, Miss McIvor (39); Southdean, Mr A. C. Milne (39); Parish of Sprouston—Hadden, Mr E. B. Cuthbert (39); Sprouston, Mr Wm. Black (39); Parish of Teviothead—Teviothead, Mr W. R. Elliot (38); Parish of Yetholm—Yetholm, Mr G. Mather (39).

COUNTY OF SELKIRK.

Parish of Ashkirk—Ashkirk, Mr J. Riddle (38); Parish of Caddonfoot—Caddonfoot, Mr T. Litster (40); Parish of Ettrick—Chapelhope, Miss R. S. Ross (40); Ettrick, Mr A. McLaren (40); Burgh of Galashiels—Glendinning Terrace, Mr A. Thomson (40); Ladhope, Mr T. Crerar (40); Old Town, Mr Beveridge (40); Roxburgh Street, Mr W. Dunlop (40); Galashiels Epis., Mr F. H. Hogarth (40); Parish of Galashiels, Landward—Lindean, Miss M. Moodie (40); Parish of Kirkhope—Kirkhope, Mr J. S. Kerr (40); Redfordgreen, Mr M. W. Anderson (40); Gilmanscleuch, Mr T. Elliot (40); Burgh of Selkirk—Selkirk, Mr B. Waddell (40); Parish of Selkirk (Landward)—Bowhill, Miss S. Gunson (40); Parish of Yarrow—Mountbenger, Miss Brown (40); Yarrow, Mr Jas. Watson (40); Yarrowford, Miss Roper (40).

COUNTY OF STIRLING.

Parish of Airth—Airth, Mr Wm. Bowden (61); South Alloa, Mr C. Laing (61); Dunmore Village, Miss Livingstone (61); Parish of Baldernock—Baldernock, Mr J. Gibson (12); Parish of Buchanan—Buchanan, ? (59); Sallochy, Miss Allan (59); Parish of Campsie—Glen, Miss J. F. D. Stewart (12); Torrance, Mr W. Robb (12); Parish of Denny—Denny, Mr J. Gillanders (62); Lawhill, Miss M. Taylor (62); Longcroft, Mr J. Robertson (62); Denny, R. C., Miss Hancock (62); Parish of Drymen—Auchentroig, Miss Fraser (59); Drymen, Mr J. Hall (59); Finnich, Miss A. Young (59); Parish of Dunipace—Torwood, Mr R. McArthur (62); Burgh of Falkirk—Bainsford, Mr J. Hunter (63); Central, Mr G. Nelson (63); Carmuirs, Mr J. Smith (63); High, Mr W. Erskine (63); Parish of Falkirk (Landward)—Auchengean, Mr T. Bartlie (63); Greenhill, Mr J. Davidson (63); Parish of Fintry—Fintry Stewarts, Mr J. Finlayson (59); Parish of Gargunnock—Gargunnock, Mr A. Davidson (59); Parish of Grangemouth—Dundas, Mr G. Hastie (61); Grange, Mr C. W. Thomson (61); Polmont, Mr D. McAinsh (61); Redding Village, Miss Whyte (61); Wallacestone, Mr J. W. Biggar (61); Zetland, Mr J. Drysdale (61); Town of Kilsyth—Academy, ? (12); Parish of Kilsyth (Landward)—Banton, Mr W. Armstrong (12); Chapel Green, Mr T. Haig (12); Banknock, Mr J. D. Hutton (12); Parish of Kippen—Arnprior, Mr J. Gardner (59); Buchlyvie, Mr G. Dalgleish (59); Parish of Larbert—Carronshore, ? (62); Larbert Central, Mr H. Martin (62); Larbert Village, Mr W. K. Young (62); Carron, Mr R. Whyte (62); Parish of Logie—Causewayhead, Mr A. Dalziel (59); Parish of Muiravonside—Blackbraes, Mr A. Campbell (61); Drumbowie, Mr Geo. G. Mackay (61); Maddiston, Miss J. F. Walker (61); Muiravonside, Mr D. Watt (61); Parish of St Ninian's—Bannockburn, Mr R. Saunders (59); Cowie, Mr W. Morrison (59); Fallin, Mr Arch. Tait (59); Milton, Mr J. McInnes (59); Muirland, Miss Finlayson (59); Sauchie, Miss Jane Fergus (59); Parish of Slamannan—Avonbridge, Mr R. Duncan (10); Limerigg, Mr J. Allan (10); Rosemount, Mr D. Leslie (10); Slamannan, Mr J. Stevenson (10); Barnsmuir, R. C., Miss H. Carolan (10); Burgh of Stirling—Abbey, Miss H. Reid (60); Allan's, Mr Chas. Johnston (60); Craigs, Mr Wm. Yule (60); High, Mr Geo. Lawson (60); St Ninian's, Mr R. B. Philip (60); Territorial, Mr J. Jamieson (60); Parish of Strathblane—Strathblane, Mr M. F. Chisholm (12).

COUNTY OF SUTHERLAND.

Parish of Assynt—Achmelvich, Miss M. Emslie (96); Assynt, Miss Ria S. Miller (96); Elphine, Mr A. Macneill (96); Lochinver, Mr W. Newlands (96); Unapool, Mr A. McKenzie (96); Parish of Clyne—Clyne, Mr H. S. Winchester (96); Doll, Miss M. J. Sullivan (96); Strathbrora, Miss M. W. Kidd (96); Parish of Creich—Bonar Bridge, Mr D. Sutherland (96); Invershin, Miss M. MacFarquhar (96); Rosehall, Mr A. Urquhart (96); Parish of Dornoch—Balvraid, Miss H. Grant (95); Dornoch, Mr J. M. Moore (95); Embo, Mr J. G. Phimister (95);

Rcarquhar, Miss M. K. Matheson (95); Parish of Durness—Durine, Mr Geo. Whytc (96); Parish of Eddrachillis—Badcall Inchard, Mr A. Macrae (96); Fanagmore, Mr R. Gillies (96); Old Shore, Mr Hy. Platt (96); Scourie, Mr D. McLeod (96); Parish of Farr—Armadale, Mr A. Sutherland (96); Dalhalvaig, Mr W. Grant (96); Farr, Mr E. MacKay (96); Kirtomy, Miss H. Mackay (96); Melvich, Mr A. Macintosh (96); Strathy, Mr G. G. Hastings (96); Parish of Golspie—Golspie, Mr A. McGem (95); Parish of Kildonan—Helmsdale, Mr H. C. Robertson (96); Kildonan, Miss Douglas (96); Kinbrace, Miss A. Sutherland (96); Parish of Lairg—Shinness, Miss M. Tough (96); Parish of Loth—Loth, Miss E. C. Wallace (95); Portgower, Miss M. Gunn (95); Parish of Rogart—Blarich, Mr W. J. Paris (96); Rhilochan, Mr D. Mackay (96); Rogart, Mr W. Campbell (96); Parish of Tongue—Melness, Mr J. W. Morison (96); Skerray, Mr J. Milne (96).

COUNTY OF WIGTOWN.

Parish of Glasserton—Glasserton, Mr J. Lambert (33); Knock, Mr L. Smith (33); Ravenstone, Mr H. S. Morton (33); Parish of Inch—Castlekennedy, Mr R. McLagan (32); Lochans, Mr M. Boyd (32); Parish of Kirkcolm—Douloch, Mr A. Clyne (32); Kirkcolm, Mr J. McDougall, (32); Village, Miss McRostie (32); Parish of Kirkcowan—Darnow, Miss Ross (33); Kirkcowan, Mr J. B. Cuthbert (33); Parish of Kirkinner—Kirkinner, Mr P. Williamson (33); Longcastle, Mr J. B. Dedman (33); Malzie, Miss H. G. G. Menzies (33); Parish of Kirkmaiden—Central, Mr R. Davidson (32); Northern, Mr J. Laird (32); Parish of Leswalt—Larbrax, Mr J. Muir (32); Leswalt, Mr A. McMaster (32); Parish of Mochrum—Culshabbin, Mrs Campbell (33); Elrig, Miss M. Woodbridge (33); Parish of New Luce—Glenwhilly, Miss McIlwrick (32); Parish of Old Luce—Drochduil, Mr C. Hunter (32); Glenluce Academy, Mr McPherson (32); Glen of Luce, Mr W. Michie (32); Parish of Penninghame—Challoch, Miss Shoyan (33); Loudon, Mr M. M. Barnes (33); Penninghame, Mr W. Baillie (33); Parish of Portpatrick—Portpatrick, Mr J. Baird (32); Parish of Stoneykirk—Ardwell, Mr D. Thomson (32); Meoul, Mr A. McClymont (32); Sandhead, Mr R. M. Davidson (32); Burgh of Stranraer—Academy, Mr Jos. Hood (32); Lewis Street, Mr T. D. Conacher (32); Sheuchan, Mr W. Wilson (32); St Joseph's, R. C., Sisters of St Joseph (32); Parish of Whithorn—Isle, Mr W. Burns (33); Principal, Mr J. B. Williams (33).

CAMBRIDGE: PRINTED BY JOHN CLAY, M.A. AT THE UNIVERSITY PRESS.

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY

GN 197 T7 Tocher, James Fowler
Pigmentation survey of
school children in Scotland