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COMMUNICATIONS

A STATISTICAL ANALYSIS OF 3,219 PERSONS*
Certified Blind at the Regional Clinic for Certification
of the Blind, Glasgow and South-West Scotland,
During the Period 1929-1935

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(Conclusion)

VI.—SUMMARY AND CONCLUSIONS.

1. This paper sets out the results of the analysis of information regarding 3,219 cases found blind at the Regional Clinic for the Certification of Blind Persons in Glasgow and South-West Scotland.
2. The method of examination by a Medical Board and the standards of blindness are described. It is shown that the visual

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acuity was under 3/60 Snellen in more than ninety per cent. of all cases. In the remaining cases the field of vision was contracted. The findings at the examination were coded and the analysis of data carried out mechanically by means of punched cards.

3. The cases analysed came from twenty-three counties and large burghs in the South-West of Scotland—the greater proportion, as would be expected, coming from Glasgow. The population of the area at Census 1931 was 2,578,709 persons.

4. Information regarding the distribution of the cases in age, sex, nationality and occupation is given and is compared with that of the population in the area from which cases were drawn. The great majority were born in Scotland, but a higher proportion of Irish born were included than would have been expected from the distribution of this nationality in the population of the area. The mean ages of blindness and of onset of the condition causing blindness were 46.6 years and 34.5 years respectively, while the mean age at the time of examination was 55.3 years. In more than half the cases blindness occurred after the age of 50, while in almost two-thirds the condition causing blindness had commenced before that age. The first year of life shows the highest rate for the onset of blindness and the later years of life (from 70 onwards) the next greatest. Males were in excess of females, the proportion in the two sexes being 56.9 per cent. and 43.1 per cent. respectively. It is pointed out that information regarding age and sex distribution and occupation of the sample analysed and of the population at risk is essential for a proper comparison of statistics of the blind from different areas.

5. The sample analysed, while sufficiently representative of the blind examined at the Regional Clinic, cannot be accepted as completely representative of the blind population in Glasgow and South-West Scotland. Evidence is produced to show that social and economic factors played an important part in selecting the cases presenting themselves for examination.

6. The causes of blindness in the 3,219 cases examined have been classified in four different ways: (1) according to the cause of blindness affecting the *second* blind eye; (2) according to that affecting the *first* blind eye; (3) according to causes in relation to eyes as *distinct from cases*, i.e., 6,438 eyes from 3,219 cases, and (4) when limited to those cases in which the same cause acted on both eyes. The first method, generally speaking, is the most satisfactory, although it tends to emphasise the importance of conditions such as Cataract and Myopia acting late in life and fails to give sufficient weight to injury as a cause of blindness.

The chief causes of blindness were Cataract 16.77 per cent., Myopia 16.34 per cent., Venereal Disease 13.95 per cent., Chronic

Septicaemia, Auto-intoxication etc. 10.72 per cent., Glaucoma 8.69 per cent., Congenital Anomalies and Abiotrophies 7.45 per cent., and Injury 6.42 per cent., which between them accounted for 80.34 per cent. of the cases.

The essential factor producing variations in the different methods of classification is Injury; thus, when the first eye is taken as a basis of classification 10.13 per cent. fall into this category, and if the second eyes only are considered the figure is 6.4 per cent., while when only those cases in which the same cause acted in both eyes are considered the proportion of cases due to Injury was only 5.8 per cent. Thus it appears that even in a highly industrial area such as South-West Scotland Injury plays a smaller part than has been frequently reported.

7. The cases falling under the various causes are corrected for age and sex as is done in the case of Death and similar rates. While no material change in the order of importance of the individual causes is produced in the present analysis, the importance of this standardisation is stressed as allowing satisfactory comparison with similar surveys.

8. A percentage distribution of cases in relation to cause of blindness does not bring sufficiently into relief the disabling effect and the economic importance of the various causes. Accordingly, the relative importance of the various causes from the point of view of the amount of blindness produced has been assessed. This has been done by calculating the "patient-years" of blindness from the duration of loss of sight for each cause and the number of cases in these causes. Assessment in this way shows that certain of the major causes of blindness were not responsible for the same amount of disablement as that produced by other numerically less frequent causes. Cataract, for instance, which was the most important condition on basis of frequency distribution fell to eighth place when considered in relation to "amount of blindness." On the other hand, Injury and Congenital Anomalies which were seventh and eighth respectively were raised to third and second places.

9. The mean age of onset and of blindness in regard to the various individual causes is given. It is shown that in cases becoming blind in the first four years of life ophthalmia neonatorum and congenital anomalies caused blindness in 68 per cent. In the school period (5-15 years) the incidence of blindness is lower, the chief causes being congenital syphilis and non-industrial injury. Syphilis is the most important single cause in the age group 16-29 years, but other important causes are injuries—including industrial—(17.28 per cent.), so-called chronic septicaemia or focal sepsis (16.28 per cent.), myopia (13.26 per cent.), Leber's

atrophy and pigmentary degeneration of the retina (9.49 per cent.). In the age group 30-49 years syphilis, chiefly acquired, is responsible for one-fifth of the cases, with myopia next in importance with 17.92 per cent. Injury is of less importance in this group, with 10.43 per cent. of cases. In the period 50-59 inflammatory conditions give place to degenerative. Myopia (22.68 per cent.), cataract (22.10 per cent.), glaucoma (12.71 per cent.) and vascular disease (4.95 per cent.) are the most important and are together responsible for 60 per cent. of the cases in this age group. Over 70 years cataract and glaucoma between them cause 67 per cent. of the cases.

10. Consideration of the relation of sex to cause of blindness showed that in only one condition, namely, diabetes, was there a significant excess of females. The incidence of males was significantly higher in abiotrophy, glaucoma, other primary defects, acquired syphilis, non-industrial injury, industrial injury, sympathetic ophthalmia, vascular disease and disease of central nervous system other than tumours.

11. As regards occupation miners and quarry workers show an outstandingly high incidence. The rate for these occupations corrected for age and sex was 39.03 per 10,000 of the population gainfully employed, as compared with 14.88 per 10,000 for all cases. Other occupations which showed high rates were textile workers (22.53 per 10,000) and metal workers (17.04 per 10,000), while lower than average rates were found for those employed in agricultural, professional, commercial and personal service occupations. When individual causes in relation to occupations were studied, no satisfactory explanation was obtained for these divergencies, although in miners the incidence of blindness from Injury is significantly in excess of the mean for this cause. It is of interest that Myopia does not reveal a significant excess in any occupational order.

12. Consideration of causes of blindness in relation to birth-place showed significantly higher rates in Irish-born for all causes with the single exception of congenital syphilis. These higher rates are in the main due to the fact that the Irish-born population showed a higher proportion of the male sex, and of persons over 50 years of age, than is found in the native population. At the same time occupation and social status play an important part.

13. The relationship of family history to the cause of blindness was studied, but revealed information of only limited value. This was due to the unreliable history obtained, to the fact that confirmation of a familial defect by actual examination was possible in few cases only and to the difficulty of allowing for the variation in size of the families concerned. However, 14.74 per cent. of all

cases gave a history of similar defect in other members of the family, while conditions possibly of a hereditary nature showed a positive history in 25.4 per cent.

14. Comparison is made of the results of the present analysis with a similar survey in England and Wales. The difficulties of comparison are indicated, but it is shown that the only important difference is an excess in South-West Scotland in the incidence of blindness resulting from what is called in the Medical Case Record Chronic Septicaemia, Focal Sepsis or Auto-intoxication, causing Uveitis.

15. Certain of the more important causes of blindness are considered in detail. Details are given in the text and in the appendix tables of age and sex distribution and the ocular manifestations attributed to the various causes. Particular reference is made to blindness from myopia, cataract, injury and syphilis.

In regard to myopia, the chief complications causing blindness were choroido-retinal degeneration, cataract and detachment of the retina, although the first named was present in almost all cases. Blindness occurring in myopes below the age of 40 was most commonly due to detachment of the retina, during middle life to choroido-retinal disease and in later ages to degenerative changes in the lens. It is noted that myopic detachment of the retina was more common in males,

Analysis of cases due to senile cataract showed that in 56.7 per cent. there was a possibility of restoration of vision by operation.

Particular attention has been paid to the association of syphilis and blindness because the Kahn diagnostic test was carried out in almost two-thirds of all the cases analysed. While syphilis was actually diagnosed as the cause of blindness in 10.8 per cent. of cases, evidence is produced to show that this disease may have played a part in a further 6.6 per cent. of the cases. Interstitial keratitis was the chief manifestation of congenital syphilis, the proportion of males to females being roughly 1:2. Optic nerve atrophy was a predominant ocular defect in the acquired form.

It is worthy of note that a higher than average rate of positive Kahn tests was found in those blind from myopia and glaucoma.

Injury was directly or indirectly responsible for blindness in both eyes in 5.85 per cent. of all cases. It is suggested that the remaining cases attributed in part to injury would have become blind apart from injury as the causes affecting the uninjured eye were predominantly binocular. The great majority of industrial injuries, as would be expected, occurred between the ages of 30 and 50, and of non-industrial under the age of 16 years.

The high incidence of injury as a cause of blindness in miners as compared to that in metal workers is attributed to the frequency

in the former of explosions, falls and blows, resulting in head injury.

Sympathetic ophthalmia occurred as a sequel more often in the case of non-industrial injury. The majority of cases with this condition became blind under 30 years of age.

16. The defects or ocular diseases produced by the various causes are shown and the importance of this information for purposes of comparison with other similar surveys is indicated. In the appendix tables particulars are given of age and sex distribution, together with the mean age of onset and of blindness for the various defects. Six ocular defects, namely cataract, myopia, optic nerve atrophy, ulcer of the cornea, glaucoma and iridocyclitis, were responsible for almost three-quarters of the cases of blindness.

17. Consideration is also given to the end results of ocular disease. These may be considered the determining causes of blindness and are of importance in regard to the question of cure of blindness. Cataract, in one form or another, was the ultimate cause of blindness in one-third of all cases.

18. Particular attention has been paid to questions of prevention and cure of blindness under the headings "True Prevention," i.e., prevention of actual causes of blindness, "Prevention by Treatment," either of general or of ocular disease and "Curative Measures."

The effects of true prevention cannot be satisfactorily assessed on the material available. Evidence is produced, however, from the incidence of congenital syphilis under one year in Glasgow (which has fallen from 335 cases in 1922 to 36 cases in 1937) and from the incidence of visual impairment of gonorrheal ophthalmia neonatorum (which has shown a fall from 112 cases in the period 1917-21 to 2 cases in period 1932-36), which suggests that general Public Health measures are having an effect in reducing blindness from these conditions.

The possible influence of eugenic measures on the incidence of blindness is discussed and it is demonstrated from the present series of cases that the probable reduction in blindness would not be more than 3 per cent.

As regards injury the present analysis would suggest that the effect of protective devices in industry will not produce any *marked* reduction in the incidence of blindness. This is because injuries due to flying particles etc. which can be prevented are mostly monocular, while a considerable body of blindness is due to explosions, falls or blows, which are not equally preventable.

20. Prevention by treatment is considered under two headings, namely, treatment of general disease of the body and of ocular disease. In regard to the first, the only figures available are those

for syphilis. Previous treatment had been obtained by 70 per cent. of the cases blind from this condition.

To ascertain the effect of prevention by treatment of ocular disease, the cases analysed were divided into two groups: (1) those in which the absence of previous treatment was unlikely to effect the ultimate progress of the condition, *e.g.*, cataract, congenital anomalies and systemic disease, and (2) those in which previous treatment was regarded of importance in preserving vision, *e.g.*, infectious and traumatic conditions, glaucoma, etc. The results showed that in the former group 24 per cent. had no previous special ophthalmic treatment, while in the other 8.5 per cent. fell into this category. It may be concluded that failure to obtain treatment had not such a serious or irretrievable effect on the numbers blind as is suggested by figures covering all cases, which show 15.7 per cent. without treatment and 12.5 per cent. with incomplete treatment.

Similar results are obtained when defects are analysed. Thus causes such as glaucoma, iridocyclitis and corneal ulcer, whose progress may be influenced by treatment, show a lower than average rate without treatment, while causes such as cataract, myopia, degenerative retinitis, optic nerve atrophy, whose course is not so likely to be benefited by treatment, show a higher than average rate.

21. When curative measures are considered in the present series of cases it is shown that, generally speaking, only opacities of the transparent media of the eye are susceptible to remedial measures. It was the opinion of the ophthalmologists that in 16.2 per cent. of total cases treatment might be expected to restore useful vision. In practically all of these cases the treatment recommended was of a surgical nature and the blindness in fully three-quarters was due to cataract.

The reasons for failure to obtain treatment are considered, and it is shown that patients with conditions associated with pain or sudden onset were more likely to seek advice, while those with disease of an insidious onset and arising late in life are less likely to do so. It would appear that the proximity of hospital facilities reduces the number without treatment. Thus, in the present series 19.4 per cent. of cases coming from localities with no hospital beds for treatment of eye disease had received no previous treatment, as compared with 13.4 per cent. from areas with this provision. The social factor is also of importance in this respect, the higher social orders showing a lower percentage in which further treatment was recommended. Again, Irish-born cases showed a significantly higher proportion without treatment.

When consideration is given to the number of persons who

underwent the treatment recommended at the Regional Clinic, it is shown that only some 14 per cent. completed the treatment advised. The majority of the others showed an unwillingness to carry out the treatment, partly from economic reasons. The fact that so many of the curable blind fail to undergo treatment would seem to favour the award of Blind Pensions only to incurable persons.

In conclusion, it may be pointed out that the present report, which is the first based on the scheme adopted by the Department of Health for Scotland for recording the information obtained in the course of medical examination of blind persons, has amply demonstrated the value of the scheme. This method has made it possible to obtain easily a full and comprehensive picture of blindness in many of its aspects. Further, the data are so arranged that comparison is possible with the findings of other workers.

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TABLE A

Occupations engaged in prior to Blindness of the 3,219 Cases arranged according to Occupational Order used by the Registrar General in Census Returns and according to Social Categories used by the Registrar General in Decennial Supplement, 1921

OCCUPATIONAL ORDER	SOCIAL CLASS	OCCUPATION	MALES	FEMALES	TOTAL
I	4	Fishermen	6	—	6
II		Agricultural Occupations	42	11	53
	2	Farmers	4	—	4
	5	Gardeners' Labourers	11	—	11
	4	Agricultural Labourers	22	11	33
	5	Estate Workers	3	—	3
	4	Others	2	—	2
III		Mining and Quarrying Occupations	208	1	209
	4	Miners	196	1	197
	4	Other Workers	12	—	12
IV	4	Workers in Treatment of Non-Metalliferous Mine and Quarry Products		1	1
V	4	Makers of Bricks, Pottery and Glass	9	3	12
VI	3	Workers in Chemical Processes; Makers of Paints, Oils, etc.	16	2	18
VII		Metal Workers (not Electro-plate or Process Metals)	299	—	299
	3	Moulders and other Foundry Workers	34	—	34
	3	Smiths and Skilled Forge Workers	31	—	31
	3	Slotters, Millers, Turners, etc.	19	—	19
	4	Fitters and Millwrights	49	—	49
	3	Boilermakers, Platers, etc.	53	—	53
	3	Brass Finishers and Turners	3	—	3
	3	Constructional Engineers, Steel Erectors, etc.	2	—	2
	4	Mechanical Engineers	9	—	9
	3	Motor Mechanics	1	—	1
	3	Plumbers	10	—	10
	3	Riveters	4	—	4
	3	Tinsmiths, Sheet Metal Workers	8	—	8
	5	Other Metal Workers	76	—	76
IX		Electrical Apparatus Makers and Fitters	3	—	3
	3	Electrical Engineers	2	—	2
	3	Electricians	1	—	1
XI	4	Workers in Skins and Leather	7	—	7

TABLE A—*continued*

OCCUPA- TIONAL ORDER	SOCIAL CLASS	OCCUPATION	MALES	FEMALES	TOTAL
XII		Textile Workers	28	48	76
	3	Winders	1		1
	3	Weavers	3	17	20
	4	Other Textile Workers ...	24	31	55
XIII		Makers of Textile Goods and Articles of Dress	36	38	74
	3	Tailors, etc.	18	9	27
	3	Dress and Blouse Makers ...	—	9	9
	3	Boot and Shoe Makers ...	16	1	17
	4	Sewers, Stitchers, Sewing Machinists	—	8	8
	4	Other Workers	2	11	13
XIV		Makers of Foods, Drinks and Tobacco	21	3	24
	3	Bakers and Pastry Cooks ...	11	1	12
	3	Sugar Confectionery, Makers, Moulders, etc.	—	2	2
	4	Other Workers	10	—	10
XV		Workers in Wood and Furni- ture	59	2	61
	3	Cabinet Makers	8		8
	3	Carpenters and Joiners ...	23		23
	3	Coach and Carriage Builders	3		3
	3	Pattern Makers	1	1	2
	4	Sawyers	5		5
	3	Shipwrights and Boat and Barge Builders	3		3
	4	Wood-Turners and Machin- ists	4		4
	5	Other Workers	12	1	13
XVI		Makers of and Workers in Paper and Cardboard, Book- binders, etc.	3	2	5
	3	Cardboard Box Makers ...	3		3
	3	Bookbinders		2	2
XVII		Printers and Photographers ...	11	7	18
	3	Compositors	1		1
	3	Printing Machine Setters ...	7	2	9
	4	Other Workers	3	5	8
XVIII		Builders, Bricklayers, Stone and Slate Workers: Con- tractors	34		34
	2	Builders	2		2
	3	Bricklayers	7		7
	3	Plasterers	4		4
	3	Slaters and Tilers	4		4
	3	Masons	6		6
	5	Contractors' Labourers ...	4		4
	4	Other Workers	7		7

TABLE A—continued

OCCUPATIONAL ORDER	SOCIAL CLASS	OCCUPATION	MALES	FEMALES	TOTAL
XIX	3	Painters and Decorators ...	13	17	30
		French Polishers ...	2	6	8
XX	3	Workers in other Materials ...		2	2
		Workers in Rubber ...	1	2	2
XXI		Workers in Mixed or Undefined Materials ...	43		43
	3	Makers of Musical Instruments ...	28		28
	4	Employed in Gas, Electricity, etc. ...	15		15
XXII		Persons employed in Transport and Communication ...	162	4	166
	3	Railway Drivers, Firemen and Cleaners ...	1		1
	4	Railway Porters and Lampmen ...	10		10
	4	Other Railway Servants ...	33	1	34
	4	Drivers and Coachmen ...	42		42
	3	Motor Drivers ...	10		10
	3	Tram Drivers and Conductors ...	4		4
	3	Other Road Transport Workers ...	4		4
	3	Petty Officers, Seamen and Deck Hands ...	14		14
	4	Firemen, Trimmers, etc. ...	21		21
	5	Dock Labourers ...	14		14
	5	Messengers and Porters ...	4	1	5
	4	Other Workers in Transport	5	2	7
XXIII		Commercial, Finance and Insurance Occupations ...	100	27	127
	2	Proprietors, Managing Directors, etc. ...	14	3	17
	2	Brokers, Factors, Agents ...	2	1	3
	2	Commercial Travellers ...	14		14
	3	Salesmen, Shop Assistants...	37	14	51
	5	Hawkers ...	19	7	26
	2	Other Workers ...	14	2	16
XXIV	2	Persons employed in Public Administration and Defence ...	6	—	6
XXV		Professional Occupations ...	31	25	56
	3	Nurses and Midwives ...		9	9
	2	School Teachers ...	1	7	8
XXVI	2	Others ...	30	9	39
	3	Persons professionally engaged in Entertainment and Sport ...	3	—	3

TABLE A—*continued*

OCCUPATIONAL ORDER	SOCIAL CLASS	OCCUPATION	MALES	FEMALES	TOTAL
XXVII		Persons engaged in Personal Service	16	91	107
	3	Domestic Servants		45	45
	4	Barmen and Waiters	2	3	5
	4	Laundry Workers	—	14	14
	4	Caretakers, etc.	7	27	34
	4	Other Workers	7	2	9
XXVIII	2	Clerks and Draughtsmen; Typists	27	5	32
XXIX	3	Warehousemen, Storekeepers and Packers	33	6	39
XXX	3	Stationary Engine Drivers, Dynamo and Motor Attendants	18	—	18
XXXI		Other and Undefined Workers	228	3	231
	4	Timekeepers	10	—	10
	5	General Labourers	172	—	172
	4	Others	46	3	49
		Others	270	1,200	1,470
		Housewives		1,001	1,001
		Not employed prior to blindness—			
		In Blind Asylum	108	52	160
		At School	71	57	128
		Occupations not stated	91	90	181
		Total all Cases	1,732	1,487	3,219

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CAUSES	CLASSIFICATION ACCORDING TO—							
	SECOND EYE ONLY		FIRST BLIND EYE ONLY		BOTH EYES		BOTH EYES SAME CAUSE	
	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES
CONGENITAL AND UNDETERMINED								
CONDITIONS:								
Congenital	4.75	153	4.75	153	4.75	306	5.09	147
Abiotrophy	2.70	87	2.67	86	2.69	173	2.98	86
Tumours	0.12	4	0.19	6	0.16	10	0.14	4
Myopia	16.34	526	14.73	474	15.53	1,000	15.90	459
Other Refractions	0.03	1	0.22	7	0.12	8	—	—
Glaucoma	8.7	280	8.39	270	8.54	550	8.87	256
Cataract	16.77	540	14.69	473	15.73	1,013	15.15	437
Other Primary Defects	0.87	28	0.78	25	0.82	53	0.83	24
Total	50.29	1,619	46.41	1,494	48.35	3,113	48.96	1,413
INFECTIOUS AND TOXIC								
CONDITIONS:								
Exogenous—								
Ophthalmia Neonatorum	3.07	99	3.14	101	3.11	200	3.43	99
Trachoma	0.81	26	0.81	26	0.81	52	0.90	26
Local Infections	2.52	81	2.73	88	2.63	169	2.29	66
Other	0.09	3	0.09	3	0.09	6	0.07	2
Total	6.49	209	6.77	218	6.63	427	6.69	193
Endogenous—								
Gonorrhoea	0.06	2	0.06	2	0.06	4	0.07	2
Congenital Syphilis	4.72	152	4.72	152	4.72	304	5.20	150
Acquired Syphilis	6.09	196	6.03	194	6.06	390	6.55	189
Smallpox	0.19	6	0.22	7	0.20	13	0.21	6
Measles	0.87	28	1.06	34	0.96	62	0.97	28
Scarlet Fever	0.12	4	0.09	3	0.11	7	0.10	3
Others	0.03	1	0.03	1	0.03	2	0.03	1
Meningitis	1.21	39	1.18	38	1.19	77	1.32	38
Tubercle	0.62	20	0.62	20	0.62	40	0.69	20
Phlyctenular	2.61	84	2.77	89	2.69	173	2.84	82
Septicæmia, Acute	0.31	10	0.28	9	0.29	19	0.31	9
Septicæmia, Chronic	10.72	345	10.44	336	10.73	681	10.81	312
Other	0.96	31	1.09	35	1.03	66	1.07	31
Total	28.52	918	28.58	920	28.55	1,838	30.19	871

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TABLE B—continued

CAUSES	CLASSIFICATION ACCORDING TO—							
	SECOND EYE ONLY		FIRST EYE ONLY		BOTH EYES		BOTH EYES SAME CAUSE	
	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES	PERCENTAGE	NO. OF CASES
TRAUMATIC AND CHEMICAL CONDITIONS:								
Birth	0.09	3	0.09	3	0.09	6	0.10	3
Non-Industrial	0.87	28	3.48	112	2.17	140	*2.01	58
Industrial	2.52	81	5.03	162	3.77	243	*2.95	85
War	0.28	9	0.26	9	0.28	18	0.28	8
Not Ascertainable	0.47	15	1.06	34	0.76	49	*0.48	14
Sympathetic Ophthalmia	2.20	71	0.22	7	1.21	78	—	—
Chemico-toxic—Tobacco	0.12	4	0.12	4	0.12	8	0.14	4
Alcohol	0.03	1	—	—	0.02	1	—	—
Other	0.06	2	0.06	2	0.62	4	0.07	2
Total	6.65	214	10.35	333	8.50	547	6.03	174
SYSTEMIC DISEASE:								
Anemia	0.03	1	0.03	1	0.03	2	0.03	1
Diabetes	1.34	43	1.34	43	1.34	86	1.49	43
Nephritis	0.16	5	0.16	5	0.16	10	0.17	5
Pregnancy	0.18	6	0.25	8	0.22	14	0.21	6
Vascular	3.11	100	2.55	82	2.83	182	2.74	79
Intracranial Neoplasm	1.12	36	1.12	36	1.12	72	1.25	36
Other Diseases of C.N.S.	1.15	37	1.15	37	1.15	74	1.25	36
Other-General Diseases	0.25	8	0.25	8	0.25	16	0.28	8
Total	7.33	236	6.83	220	7.08	456	7.42	214
NOT CLASSIFIED	0.71	23	1.06	34	0.89	57	0.69	20
Total	100.00	3,219	100.00	3,219	100.00	6,438	*100.00	2,885

* Cases of injury one eye complicated by sympathetic ophthalmia in the other eye have been included in these figures.

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TABLE C

Causes of Blindness in the 3,219 Cases arranged according to Percentage Distribution and Rate per 10,000 of Population at Census, 1931, when Standardised for Age and Sex, together with Average Duration of Blindness and "Patient Years" of Blindness expressed as Percentage of Total Years Blindness

CAUSES OF BLINDNESS	NO. OF CASES	PERCENTAGE DISTRIBUTION		RATE PER 10,000 OF POPULATION AT CENSUS, 1931		AVERAGE DURATION OF BLINDNESS IN YEARS	"PATIENT YEARS" BLINDNESS AS PERCENTAGE OF TOTAL
		CRUDE PERCENTAGE	STANDARDISED FOR AGE AND SEX	CRUDE RATE	STANDARDISED FOR AGE AND SEX		
CONGENITAL AND UNDETERMINED CONDITIONS:							
Congenital Anomalies...	153	4.75	4.45	0.593	0.599	20.7	11.39
Abiotrophy ...	87	2.70	2.53	0.339	0.341	7.5	2.31
Tumour of Globe ...	4	0.12	0.12	0.016	0.017	8.7	0.12
Myopia ...	526	16.34	16.23	2.036	2.185	5.5	10.28
Other Errors of Refraction ...	1	0.03	0.03	0.004	0.004	54.5	0.19
Glaucoma ...	280	8.7	9.31	1.087	1.253	3.7	3.68
Cataract ...	540	16.77	18.19	2.094	2.448	2.9	5.56
Other Primary ...	28	0.87	0.80	0.109	0.107	7.4	0.76
Total	1,619	50.29	51.66	6.278	6.954	5.7	34.29
INFECTIOUS AND TOXIC CONDITIONS:							
Exogenous—							
Ophthalmia Neonatorum ...	99	3.07	2.87	0.383	0.386	28.7	10.08
Trachoma ...	26	0.81	0.81	0.101	0.109	3.6	0.33
Local Septic Infections ...	81	2.52	2.56	0.314	0.345	11.1	3.19
Other Local Septic Infections ...	3	0.09	0.14	0.012	0.019	8.9	0.09
Total	209	6.49	6.38	0.810	0.859	18.5	13.69
Endogenous—							
Gonorrhoea ...	2	0.06	0.06	0.008	0.008	38.3	0.27
Syphilis, Congenital ...	152	4.72	4.43	0.589	0.597	13.2	7.12
Syphilis, Acquired ...	196	6.09	5.84	0.760	0.787	5.5	3.82
Smallpox ...	6	0.19	0.18	0.023	0.025	8.1	0.17
Measles ...	28	0.87	0.81	0.108	0.109	21.7	2.16
Scarlet Fever ...	4	0.12	0.11	0.016	0.015	9.1	0.13
Other Infectious Disease ...	1	0.03	0.03	0.004	0.004	30.0	0.11
Meningitis ...	39	1.21	1.13	0.151	0.153	19.8	2.74

TABLE C—continued

CAUSES OF BLINDNESS	NO. OF CASES	PERCENTAGE DISTRIBUTION		RATE PER 10,000 OF POPULATION AT CENSUS, 1931		AVERAGE DURATION OF BLINDNESS IN YEARS	"PATIENT YEARS" BLINDNESS AS PERCENTAGE OF TOTAL
		CRUDE PERCENTAGE	STANDARDISED FOR AGE AND SEX	CRUDE RATE	STANDARDISED FOR AGE AND SEX		
INFECTIOUS AND TOXIC CONDITIONS:							
<i>Endogenous—continued</i>							
Tuberculosis	20	0.62	0.58	0.078	0.078	11.9	0.84
Phlyctenular Disease	84	2.61	2.53	0.326	0.341	14.6	4.35
Septicæmia, Acute	10	0.31	0.31	0.039	0.041	26.3	0.93
Septicæmia, Chronic	345	10.73	10.78	1.338	1.449	9.8	12.03
Other Infections	31	0.69	0.95	0.120	0.128	11.2	1.23
Total	918	28.53	27.74	3.560	3.735	11.1	35.90
TRAUMATIC AND CHEMICAL CONDITIONS:							
<i>All Injury</i>							
Birth Injury...	207	6.44	6.20	0.803	0.834	15.34	11.27
Non-Industrial	3	0.09	0.08	0.012	0.010	8.6	0.09
Industrial	28	0.87	0.83	0.109	0.112	15.0	1.49
War	81	2.52	2.41	0.314	0.324	13.0	3.73
Not Ascertainable	9	0.28	0.25	0.035	0.033	16.0	0.51
Sympathetic Ophthalmia	15	0.47	0.48	0.058	0.064	12.3	0.65
Toxic, etc.	71	2.21	2.15	0.275	0.291	18.95	4.78
	7	0.21	0.12	0.027	0.017	1.42	0.10
Total	214	6.65	6.32	0.830	0.851	15.39	11.37
SYSTEMIC DISEASE:							
Anæmia	1	0.03	0.03	0.004	0.004	1.0	0.003
Diabetes	43	1.34	1.24	0.167	0.167	1.0	0.15
Nephritis	5	0.15	0.14	0.019	0.019	2.0	0.03
Pregnancy	6	0.18	0.20	0.203	0.027	15.0	0.32
Vascular	100	3.11	3.24	0.388	0.435	2.1	0.74
Intracranial Neoplasm	36	1.12	1.06	0.140	0.140	2.4	0.31
C.N.S. Disease	37	1.15	1.09	0.143	0.147	13.55	1.79
Other General Disease	8	0.25	0.21	0.031	0.029	7.8	0.22
Total	236	7.33	7.21	0.915	0.970	4.53	3.56
NOT CLASSIFIED	23	0.71	0.69	0.089	0.093	14.8	1.21
ALL CASES	3,219	100.00	100.00	12.483	13.462	8.7	100.00

TABLE D

Various Causes of Blindness arranged according to the Mean Ages of Onset of the Condition leading to Blindness, of Onset of Actual Blindness and of Examination

(For the purposes of determining the mean ages the mid point of the age group 70+ years has been taken as 75 years, it having been found by trial that no serious error resulted by making this assumption.)

CAUSES OF BLINDNESS	NO. OF CASES	MEAN AGE OF ONSET OF CONDITION	STANDARD DEVIATION	MEAN AGE OF BLINDNESS	STANDARD DEVIATION	MEAN AGE AT EXAMINATION
ONGENITAL AND UNDETERMINED CONDITIONS :						
Congenital	153	1.0	—	14.4	21.74	35.1
Abiotrophy	87	20.8	12.4	39.5	13.85	47.0
Tumours	4	24.0	—	29.0	—	37.7
Myopia	526	16.16	17.29	52.4	13.35	57.9
Other Errors of Refraction ...	1	10.50	—	10.5	—	65.0
Glaucoma	280	58.96	9.38	61.9	14.66	65.6
Cataract	540	60.5	13.64	65.6	9.72	68.5
Other Primary Ocular Defects ...	28	39.6	15.9	43.3	16.82	50.7
Total	1,619	37.6	—	53.9	—	59.6
INFECTIOUS AND TOXIC CONDITIONS:						
<i>Exogenous—</i>						
Ophthalmia Neonatorum ...	99	1.0	—	9.0	16.64	37.7
Trachoma	26	24.4	17.21	49.98	17.86	53.6
Local Infections	81	41.1	22.15	51.28	19.18	62.3
Other	3	28.0	—	39.0	—	50.0
Total	209	19.4	—	30.90	27.87	49.4
<i>Endogenous—</i>						
Gonorrhœa	2	16.7	—	16.7	—	55.0
Syphilis, Congenital	152	14.1	10.4	25.32	16.88	38.49
Syphilis, Acquired	196	42.23	12.24	46.59	11.83	52.10
Smallpox	6	16.6	—	47.00	—	55.08
Measles	28	5.8	3.84	16.76	22.91	38.5
Scarlet Fever	4	8.6	—	19.7	—	28.8
Others	1	35.0	—	35.0	—	65.0
Meningitis	39	10.3	11.35	12.9	15.39	32.7
Tuberculosis	20	14.3	9.26	26.7	15.00	38.6
Phlyctenular	84	10.0	8.14	35.0	20.49	49.6
Septicæmia, Acute	10	24.25	—	25.25	—	51.6
Septicæmia, Chronic	345	33.9	26.92	46.3	18.54	56.1
Other	31	22.1	—	37.4	—	48.6
Total	918	28.5	—	38.3	—	49.41

TABLE D—continued

CAUSES OF BLINDNESS	NO. OF CASES	MEAN AGE OF ONSET OF CONDITION	STANDARD DEVIATION	MEAN AGE OF BLINDNESS	STANDARD DEVIATION	MEAN AGE AT EXAMINATION
TRAUMATIC AND CHEMICAL CON- DITIONS :						
<i>All Injury</i>	207	34.26	10.77	37.37	18.38	52.76
Birth	3	1.0	—	1.0	—	9.6
Non-Industrial... ..	28	31.6	35.55	35.5	22.54	50.5
Industrial	81	37.9	12.53	40.7	14.56	53.7
War	9	26.7	—	27.9	—	43.9
Not Ascertainable	15	40.3	—	47.2	—	59.5
Sympathetic Ophthalmia	71	32.16	15.45	34.95	20.76	53.9
Tobacco	4	65.0	—	65.0	—	67.0
Alcohol	1	—	—	—	—	55.0
Toxic, etc.	2	23.0	—	34.0	—	45.0
Total	214	34.7	—	37.8	—	52.9
SYSTEMIC DISEASE :						
Anæmia	1	65.0	—	65.0	—	65.0
Diabetes	43	56.5	6.11	61.1	11.74	62.1
Nephritis	5	51.0	—	51.0	—	53.0
Pregnancy	6	36.6	—	46.6	—	61.6
Vascular	100	60.8	8.25	63.58	9.57	65.7
Intracranial Neoplasm	36	34.5	18.97	36.09	19.1	38.5
Diseases of Central Nervous System	37	30.8	21.91	32.5	22.31	46.5
Other General Infections	8	25.3	—	30.5	—	38.5
Total	236	49.71	—	52.22	—	56.5
UNCLASSIFIED :	23	11.6	—	33.7	—	48.5
Total	3,219	34.49	—	46.6	—	55.3

TABLE E
Cases arranged according to Age Groups of Onset, Blindness, and Examination

CAUSES	AGE GROUP ONSET										AGE GROUP BLINDNESS										AGE GROUP EXAMINATION															
	0-1		1-4		5-15		16-29		30-39		40-49		50-59		60-69		70+		0-1		1-4		5-15		16-29		30-39		40-49		50-59		60-69		70+	
	CASES	State Not Stated	0	2	3	4	5	6	7	8	9	70+	State Not Stated	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+					
0. Congenital	153	—	149	—	—	—	—	—	—	—	—	—	—	88	10	12	7	5	12	12	5	2	1	8	28	43	14	20	24	12	3					
1. Abiotrophy	87	1	3	6	25	35	8	7	2	—	—	—	—	—	1	3	25	12	21	20	5	—	—	—	—	11	18	19	25	12	2					
2. Tumours	4	—	—	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2	—	—	—	2	—	—	—	—	—	—	—	—	—			
3. Myopia	526	7	63	38	308	25	18	16	29	16	6	9	—	—	—	8	35	44	87	171	145	27	—	—	3	20	24	56	155	199	69					
4. Other Refractions	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
5. Glaucoma	280	1	—	—	5	10	41	77	98	47	1	—	—	—	—	2	10	22	66	116	62	—	—	—	1	2	11	57	103	106						
6. Cataract	540	2	2	—	5	10	24	44	127	191	135	2	—	—	1	—	—	7	30	81	218	201	—	—	—	1	2	13	55	189	280					
7. Other Primary	28	—	—	—	1	8	5	8	2	3	1	—	—	—	—	1	6	4	8	4	3	2	—	—	—	4	4	5	4	8	3					
Total	1,619	11	221	46	341	83	66	116	238	308	189	12	88	14	25	75	82	180	356	492	295	11	8	33	80	64	124	320	526	463						
10. Ophthalmia Neon	99	—	65	31	1	—	—	2	—	—	—	—	—	48	31	2	3	6	5	2	1	1	—	—	2	13	17	22	13	24	7	1				
11. Trachoma	26	—	—	1	12	4	4	—	5	—	—	—	—	—	—	1	3	4	3	6	6	3	—	—	2	5	4	3	7	5						
12. Local Infection	81	—	1	5	15	5	9	10	16	14	6	—	1	—	10	1	8	7	20	22	12	—	—	—	1	5	4	20	25	26						
13. Other	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	1	1	—	—					
Total	209	—	66	37	29	10	13	13	21	14	6	—	49	31	13	8	19	15	29	29	16	—	—	—	2	13	20	32	22	49	39	32				
15. Gonorrhoea	2	—	—	—	1	1	—	—	—	—	—	—	—	—	—	1	1	16	22	12	2	1	—	—	—	43	28	26	28	11	4					
16. Syphilis, Congenital	152	—	9	14	92	24	5	6	1	1	—	—	3	7	51	37	16	50	63	48	17	7	—	—	1	29	57	59	32	17						
17. Syphilis, Acquired	196	1	1	1	1	20	65	59	37	10	2	1	—	1	—	10	50	1	1	2	2	1	—	—	1	2	3	1	1	1	2					
18. Smallpox	6	—	—	—	—	—	—	—	1	—	—	—	—	—	1	5	1	1	—	2	2	1	—	—	4	7	3	6	3	1	1					
19. Measles	28	—	1	16	11	—	—	—	—	—	—	—	1	15	5	1	1	—	—	1	—	—	—	—	1	1	1	1	1	1	1					
20. Scarlet	4	—	—	1	3	—	—	—	—	—	—	—	—	1	1	2	—	—	—	1	—	—	—	—	1	1	1	1	—	—	—	—				
21. Others	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
22. Meningitis	39	1	6	12	13	4	1	2	—	—	—	—	4	12	14	3	2	4	1	1	—	—	—	2	7	12	3	4	9	1	1					
23. Tubercle	20	—	—	3	11	4	2	—	—	—	—	—	—	1	1	7	6	14	16	10	—	—	—	1	6	4	4	2	4	2	4					
24. Phlyctenular	84	—	1	26	48	6	1	2	—	—	—	—	—	—	16	12	9	3	1	10	—	—	—	3	8	12	12	22	24	6	3					
25. Septicæmia, Acute	10	—	1	2	2	—	—	—	—	—	—	—	—	1	2	4	52	60	72	64	28	—	—	—	1	1	3	43	98	86						
26. Septicæmia, Chronic	345	3	4	8	51	64	50	52	53	45	15	1	—	3	4	18	43	52	72	64	8	—	—	—	1	3	16	33	43	6	5					
27. Other	31	1	3	8	4	4	3	4	4	—	—	—	—	3	3	5	3	7	1	4	8	—	—	—	1	5	3	4	6	6	5					
Total	918	6	26	91	241	127	129	129	96	56	17	3	12	53	118	117	146	168	158	106	37	—	5	32	101	117	158	232	175	98						

TABLE E—continued

CAUSES	AGE GROUP ONSET										AGE GROUP BLINDNESS										AGE GROUP EXAMINATION									
	CASES	Not Stated	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+	Not Stated	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+
30. Birth	3	—	3	—	—	—	—	—	—	—	—	—	3	1	7	6	2	3	—	—	—	2	—	—	—	—	—	—	—	—
31. Non-Industrial	28	—	—	3	10	2	1	4	2	5	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
32. Industrial	81	—	—	—	—	24	21	23	9	4	—	—	—	—	—	18	19	27	10	7	—	—	—	—	—	—	—	—	—	—
33. War	9	—	—	—	—	7	1	1	—	—	—	—	—	—	—	7	1	3	3	3	—	—	—	—	—	—	—	—	—	—
34. Not Ascertained	15	—	—	1	1	2	4	2	2	2	1	—	—	—	1	1	3	6	10	7	—	—	—	—	—	—	—	—	—	—
35. Sympathetic	71	—	1	—	22	14	6	13	6	4	—	—	—	1	19	13	12	10	7	4	—	—	—	—	—	—	—	—	—	—
36. Tobacco	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
37. Alcohol	1	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
39.	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	214	1	4	4	33	51	33	43	19	22	4	1	3	2	27	46	31	46	26	27	5	—	2	3	13	21	35	63	55	22
50. Anæmia	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
51. Diabetes	43	—	—	—	—	2	—	4	21	15	1	—	—	—	—	2	—	3	8	1	—	—	—	—	—	—	—	—	—	—
52. Nephritis	5	—	—	—	—	—	1	1	2	1	—	—	—	—	—	—	1	1	2	1	—	—	—	—	—	—	—	—	—	—
53. Pregnancy	6	—	—	—	—	—	5	1	—	—	—	—	—	—	—	—	3	1	1	—	—	—	—	—	—	—	—	—	—	—
54. Vascular	100	1	—	—	—	—	3	11	27	41	17	—	1	—	—	—	1	6	24	43	25	—	—	—	—	—	—	—	—	—
55. Intra. Neoplasm	36	—	1	1	5	9	4	9	3	3	—	—	1	1	4	8	6	7	5	3	1	—	—	—	—	—	—	—	—	—
56. C.N.S. Disease	37	—	2	3	8	6	4	6	4	2	2	—	2	2	8	7	2	7	4	3	2	—	—	—	—	—	—	—	—	—
60. Other General	8	—	1	—	2	2	2	—	—	1	—	—	—	—	3	1	2	—	1	1	—	—	—	—	—	—	—	—	—	—
Total	236	1	4	4	15	19	19	32	57	64	21	1	3	3	15	18	15	25	45	76	35	—	2	10	12	11	22	50	85	44
70. Not Classified	23	1	1	1	9	1	3	1	4	2	—	—	1	1	7	—	3	1	7	2	—	—	—	—	—	—	—	—	—	—
Total	3,219	20	318	185	670	291	263	334	435	466	237	18	156	104	205	264	296	435	621	732	388	1	19	93	231	245	362	721	885	662

TABLE F
Distribution of Groups of Causes in Age Groups

0-4 YEARS			5-15 YEARS			16-29 YEARS			30-49 YEARS			50-69 YEARS			70 YEARS AND OVER		
CAUSE	NO. OF CASES	PER-CENT. AGE	CAUSE	NO. OF CASES	PER-CENT. AGE	CAUSE	NO. OF CASES	PER-CENT. AGE	CAUSE	NO. OF CASES	PER-CENT. AGE	CAUSE	NO. OF CASES	PER-CENT. AGE	CAUSE	NO. OF CASES	PER-CENT. AGE
Congenital, etc. ...	102	39.23	Endogenous Infections	118	57.56	Endogenous Infections	117	44.31	Endogenous Infections	314	42.95	Congenital, etc. ...	848	62.68	Congenital, etc. ...	295	76.03
Exogenous Infections	80	30.70	Injury ...	27	13.17	Congenital, etc. ...	75	28.41	Congenital, etc. ...	262	35.84	Endogenous Infections	264	19.51	Endogenous Infections	37	9.54
Endogenous Infections	65	25.00	Congenital, etc. ...	25	12.19	Injury ...	46	17.42	Injury ...	77	10.53	General Diseases	121	8.94	General Diseases	35	9.02
General Diseases	6	2.30	General Diseases	15	7.32	General Diseases	18	6.81	General Diseases	40	5.47	Exogenous Infections	58	4.29	Exogenous Infections	16	4.12
Injury ...	5	1.92	Exogenous Infections	13	6.34	Exogenous Infections	8	3.03	Exogenous Infections	34	4.65	Injury ...	53	3.92	Injury ...	5	1.29
Not Classified	2	0.76	Not Classified	7	3.41	Not Classified	—	—	Not Classified	4	0.55	Others ...	9	0.66	Others ...	—	—
Total	260	100.00	Total	205	100.00	Total	264	100.00	Total	731	100.00	Total	1,353	100.00	Total	388	100.00

TABLE G

Distribution of Principal Causes of Blindness arranged in Certain Age Groups

0-5 YEARS			5-15 YEARS			16-29 YEARS			30-49 YEARS			50-69 YEARS			70 YEARS AND OVER		
CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE
Congenital Anomalies	98	37.7	Syphilis, Congenital	51	24.87	Syphilis ... Congenital Acquired	47 (37) (10)	17.80 (14.01) (3.78)	Syphilis ... Acquired Congenital	151 (113) (38)	20.65 (15.45) (5.20)	Myopia ...	316	23.36	Cataract ...	201	51.80
Ophthalmia Neonatorum	79	30.4	Injury Non-Industrial Sympathetic Ophthalmia	27 (8) (19)	13.16	Injury Industrial War Non-Industrial Sympathetic	45 (18) (7) (6) (13)	17.05 (6.82) (2.65) (2.27) (4.92)	Myopia ... Chronic Septicæmia	131	17.92	Glaucoma	182	13.45	Chronic Septicæmia	63	16.24
Infectious Disease ... Measles ...	18 (16)	6.92 (6.15)	Chronic Septicæmia	18	8.78	Chronic Septicæmia	112	15.30	Injury Industrial Non-Industrial	76 (46)	10.40 (6.29)	Chronic Septicæmia	136	10.05	Myopia ...	28	7.22
Meningitis	16	6.15	Phlyctenular Disease ...	16	7.80	Chronic Septicæmia	43	16.28	Injury Industrial Non-Industrial	76 (46)	10.40 (6.29)	Syphilis ... Acquired Congenital	79 (65) (14)	5.83 (4.80) (1.03)	Vascular Disease ...	25	6.44
Syphilis ... Congenital	10 (10)	3.8 (3.8)	Meningitis ...	14	6.83	Myopia ...	35	13.26	Not Ascertained ... Sympathetic	(6) (18)	(0.82) (2.46)	Vascular Disease ...	67	4.95	Local Infections	12	3.09
Phlyctenular Disease ...	7	2.7	Congenital Anomalies	12	5.85	Abiotrophy	25	9.49	Cataract ...	37	5.06	Injury Industrial Non-Industrial	49 (17)	3.62 (1.26)	Syphilis ...	8	2.06
Chronic Septicæmia	7	2.7	Local Infection ...	10	4.87	Phlyctenular Disease ...	12	4.55	Abiotrophy	33	4.51	Not Ascertained ... Sympathetic	(8)	(0.59)	Diabetes ...	6	1.55
Injury ... Birth ... Non-Industrial Sympathetic Ophthalmia	5 (3) (1) (1)	1.9	Myopia ...	8	3.90	Intracranial Neoplasm	8	3.03	Glaucoma ...	32	4.38	Local Infections	42	3.10	Injury ...	5	1.29
			Disease of Central Nervous System	8	3.90	Congenital Anomalies	7	2.65	Phlyctenular Disease ...	23	3.15	Diabetes ...	32	2.36	Others ...	13	3.35
			Tuberculosis	7	2.65	Tuberculosis	7	2.65	Congenital Anomalies	17	2.33	Diabetes ...	32	2.36			

TABLE G—continued

0-5 YEARS			5-15 YEARS			16-29 YEARS			30-49 YEARS			50-69 YEARS			70 YEARS AND OVER		
CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE	CAUSES	NO. OF CASES	PER-CENT-AGE
Disease of Central Nervous System	4	1.5	Infectious Disease ...	7 (5)	3.44 (2.44)	Disease of Central Nervous System	7	2.65	Local Infections	15	2.05	Phlyctenular Disease ...	26	1.92			
Acute Septicæmia	3		Tuberculosis	4	1.95	Others ...	28	10.61	Intraocular Neoplasm	13	1.78	Abiotrophy	25	1.85			
Intraocular Neoplasm	2								Ophthalmia Neonatorum	11	1.50	Congenital Anomalies	17	1.26			
Others ...	10		Intraocular Neoplasm	4	1.95				Diseases of Central Nervous System	9	1.23	Trachoma	12	0.89			
			Abiotrophy	3	1.45				Trachoma	7	0.95	Intraocular Neoplasm	8	0.59			
			Others ...	23	11.22							Fever	8	0.59			
									Vascular Disease ...	7	0.95	Disease of Central Nervous System	7	0.52			
									Meningitis...	6	0.82	Others ...	48	3.55			
									Tuberculosis	6	0.82						
									Fever ...	4	0.54						
									Others ...	41	5.61						
Total ...	260		Total ...	205		Total ...	264		Total ...	731		Total ...	1,353		Total ...	388	

TABLE H

Crude Percentage, and Percentage when corrected for Age at Examination, of Males in the Various Causes of Blindness, together with the Calculated Differences of these Percentages from that of Males in the Population of Glasgow and South-West Scotland

CAUSES OF BLINDNESS	NUMBER OF CASES	PERCENTAGE MALES	STANDARD ERROR $\sqrt{pq/n}$	DIFFERENCE FROM PERCENTAGE MALES IN AREA (48.67%)	DIFFERENCE FROM POPULATION DIVIDED BY STANDARD ERROR	PERCENTAGE MALES STANDARDISED FOR AGE AT EXAMINATION	STANDARD ERROR $\sqrt{pq/n}$	DIFFERENCE FROM PERCENTAGE MALES IN AREA	DIFFERENCE FROM PERCENTAGE MALES IN AREA DIVIDED BY STANDARD ERROR
A. CONGENITAL AND UNDETERMINED CONDITIONS:									
Congenital Anomalies	153	54.24	± 4.04	+5.57	+1.38	55.14	± 4.02	+6.47	+1.61
Abiotrophy	87	77.01	± 5.36	+28.34	+5.29	76.19	± 4.57	+27.42	+6.00
Tumour of Globe	4	50.00	—	—	—	—	—	—	—
Myopia	526	50.95	± 2.18	+2.28	+1.05	52.44	± 2.18	+3.77	+1.73
Other Errors of Refraction	1	100.00	—	—	—	—	—	—	—
Glaucoma	280	56.07	± 2.99	+7.40	+2.47	59.45	± 2.93	+10.78	+3.68
Cataract	540	47.59	± 2.15	-1.08	+0.50	52.22	± 2.15	+3.55	+1.21
Other Primary	28	67.86	± 9.45	+19.19	+2.03	69.52	± 8.70	+20.85	+2.40
Total	1,619	52.75	± 1.24	+4.08	+3.29	55.45	± 1.23	+6.78	+5.51
B. INFECTIOUS AND TOXIC CONDITIONS:									
<i>Exogenous—</i>									
Ophthalmia Neonatorum	99	47.47	± 5.02	-1.20	-0.24	49.03	± 5.02	+0.36	+0.07
Trachoma	26	50.00	± 9.80	+1.33	+0.14	50.81	± 9.80	+2.14	+0.22
Local Septic Infections	81	44.44	± 5.55	-4.23	-0.76	47.78	± 5.55	-0.89	-0.14
Other Infections	3	100.00	—	—	—	—	—	—	—
Total	209	47.37	± 3.46	-1.30	-0.38	49.47	± 3.46	+0.80	+0.13
<i>Endogenous—</i>									
Gonorrhœa	2	50.00	—	—	—	—	—	—	—
Syphilis, Congenital	152	43.42	± 4.05	-5.25	-1.30	43.03	± 4.02	-5.73	-1.65
Syphilis, Acquired	196	72.45	± 3.57	+23.78	+6.66	78.39	± 2.94	+29.72	+10.11
Smallpox	6	16.67	—	—	—	—	—	—	—
Measles	28	39.29	± 9.45	-9.38	-0.99	40.70	± 9.28	-7.97	-0.86
Scarlet Fever	4	75.00	—	—	—	—	—	—	—
Other Specific Fevers	1	0.0	—	—	—	—	—	—	—
Meningitis	39	33.33	± 8.00	-15.37	-1.92	34.24	± 7.60	-14.43	-1.89
Tuberculosis	20	50.00	± 11.18	+1.33	+0.12	52.10	± 11.18	+3.43	+0.31

TABLE H—continued

STATISTICAL ANALYSIS OF 3,219 PERSONS CERTIFIED BLIND 457									
CAUSES OF BLINDNESS	NUMBER OF CASES	PERCENTAGE MALES	STANDARD ERROR $\sqrt{pq/n}$	DIFFERENCE FROM PERCENTAGE MALES IN AREA (48.67%)	DIFFERENCE FROM POPULATION DIVIDED BY STANDARD ERROR	PERCENTAGE MALES STANDARDISED FOR AGE AT EXAMINATION	STANDARD ERROR $\sqrt{pq/n}$	DIFFERENCE FROM PERCENTAGE MALES IN AREA	DIFFERENCE FROM PERCENTAGE MALES IN AREA DIVIDED BY STANDARD ERROR
B. INFECTIOUS AND TOXIC CONDITIONS:									
<i>Endogenous—continued</i>									
Phlyctenular Conditions	84	42.86	± 5.45	-5.81	-1.07	43.96	± 5.42	-4.61	-0.85
Septicemia, Acute	10	40.00	—	—	—	—	—	—	—
Septicemia, Chronic	345	45.80	± 2.69	-2.87	-1.07	52.03	± 2.69	+3.36	+1.25
Other General Infections	31	51.61	± 8.98	+2.94	+0.33	53.82	± 8.95	+5.15	+0.58
Total	918	50.22	± 1.65	+1.55	+0.94	52.48	± 1.65	+3.81	+2.31
C. TRAUMATIC AND CHEMICAL CONDITIONS:									
Birth Trauma	3	100.00	—	—	—	—	—	—	—
Non-Industrial Trauma	28	78.57	± 9.45	+29.90	+3.16	79.83	± 7.58	+31.16	+4.11
Industrial Trauma	81	98.77	± 5.55	+50.10	+9.03	98.81	± 1.20	+50.14	+41.78
War Trauma	9	100.00	—	—	—	—	—	—	—
Trauma—Category not ascertained	15	73.33	—	—	—	—	—	—	—
Sympathetic Ophthalmia	71	63.38	± 5.93	+14.71	+2.48	64.47	± 5.68	+15.80	+2.78
Chemico-toxic	7	85.71	—	—	—	—	—	—	—
Total	214	82.24	± 3.42	+33.57	+9.82	83.07	± 2.56	+34.40	+13.44
D. SYSTEMIC DISEASES:									
Anæmia	1	100.00	—	—	—	—	—	—	—
Diabetes	43	13.95	± 7.62	-34.72	-4.56	15.87	± 5.57	-32.80	-5.88
Nephritis	5	100.00	—	—	—	—	—	—	—
Pregnancy	6	—	—	—	—	—	—	—	—
Vascular Disease	100	74.00	± 5.00	+25.33	+5.06	78.22	± 4.13	+29.55	+7.15
Intracranial Neoplasm	36	50.00	± 8.33	+1.33	+0.16	54.31	± 8.30	+5.64	+0.68
Other Diseases of Central Nervous System	37	67.57	± 8.22	+19.90	+2.30	64.42	± 7.87	+15.75	+2.00
Other General Diseases	8	50.00	—	—	—	—	—	—	—
Total	236	56.35	± 3.25	+7.68	+2.36	59.27	± 3.20	+10.60	+3.31
* NOT CLASSIFIED									
...	23	47.82	—	—	—	—	—	—	—
Total	3,219	53.87	± 0.88	+5.20	+5.91	56.35	± 0.87	+7.68	+8.82

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TABLE J
Various Causes in Relation to some Occupational Orders as a Percentage and a Rate per 10,000 of Population at Risk

OCCUPATIONAL ORDER	MYOPIA			GLAUCOMA			CATARACT			ACQUIRED SYPHILIS			CHRONIC SEPTICEMIA			VASCULAR DISEASE			INJURY			OPHTHALMIA NEONATORUM			OTHER CAUSES			ALL CAUSES		
	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000	NO. OF CASES	PER-CENTAGE	RATE PER 10,000
Agricultural Occupations ... (II)	815	0.91	815.091	3	5.66	0.71	1222	6.42	2.86	1	1.89	0.24	713	2.11	1.67	—	—	—	5	9.43	1.19	—	—	—	1732	0.84	0.05	53	100.00	12.62
Mining and Quarrying Occupations... (III)	3818	1.85	27	13	6.22	1.80	4019	14.5	5.55	13	6.22	1.80	19	9.09	2.63	115	2.61	5.53	3818	1.85	27	—	—	—	3717	7.05	1.13	209	100.00	28.98
Metal Workers (VII)	3411	3.72	34	3812	7.12	61	20	40	4.20	3612	0.42	48	3010	0.32	0.6	175	6.91	1.17	3311	0.42	27	2	0.14	—	4816	0.53	3.30	299	100.00	20.56
Textile Workers (XII)	1621	0.53	69	7	9.21	1.62	1317	11.3	0.0	4	5.26	0.92	1519	7.43	4.6	11	3.20	0.23	3	3.95	0.69	1	1.32	0.23	1621	0.53	3.69	76	100.00	17.53
Makers of Textile Goods (XIII)	1925	0.85	16	4	5.41	1.09	1418	9.23	80	4	5.41	1.09	912	1.62	4.5	11	3.50	0.27	1	1.35	0.27	1	1.35	0.27	2128	3.85	7.1	74	100.00	29.11
Workers in Wood and Furniture (XV)	1016	3.92	81	1321	31.3	66	1321	31.3	66	711	4.81	97	3	4.92	0.81	11	6.40	0.28	4	6.56	1.13	2	3.28	0.56	813	1.12	2.25	61	100.00	17.16
Workers in Transport & Communication (XXII)	2414	4.62	21	1710	24.1	56	3219	28.2	94	15	9.04	1.38	1911	4.51	7.5	106	0.20	0.92	16	9.64	1.47	1	0.60	0.09	3219	2.82	9.4	186	100.00	15.25

TABLE J—continued

OCCUPATIONAL ORDER	MYOPIA			GLAUCOMA			CATARACT			ACQUIRED SYPHILIS			CHRONIC SEPTICEMIA			VASCULAR DISEASE			INJURY			OPHTHALMIA NEONATORUM			OTHER CAUSES			ALL CAUSES		
	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000	NO. OF CASES	PER CENTAGE	RATE PER 10,000
Commercial, etc., Occupations ... (XXIII)	27	21.26	1.94	12	9.45	0.86	12	9.45	0.86	7	5.51	0.59	10	7.87	0.72	21	57.0	1.4	11	8.66	0.79	5	3.94	0.36	41	32.28	2.95	127	100.00	9.13
Professional Occupations ... (XXV)	8	14.29	1.71	6	10.71	1.28	5	8.93	1.07	—	—	—	4	7.14	0.86	—	—	—	2	3.57	0.43	10	17.86	2.14	21	37.5	4.49	56	100.06	11.98
Personal Service Occupations ... (XXVII)	20	18.69	1.78	9	8.41	0.80	16	14.95	1.43	9	8.41	0.80	16	14.95	1.43	4	3.74	0.36	4	3.74	0.36	3	2.80	0.27	26	24.30	2.32	107	100.00	9.55
Other and Undefined Workers ... (XXXI)	48	20.78	3.70	21	9.09	1.62	38	16.45	2.93	20	8.66	1.54	21	9.09	1.62	8	3.46	0.62	17	7.36	1.31	5	2.16	0.39	53	22.94	4.09	231	100.00	17.81
All other Occupations ...	58	20.00	2.22	36	12.41	1.38	32	11.03	1.23	33	11.38	1.27	30	10.34	1.15	16	5.52	0.61	19	6.55	0.73	1	0.34	0.04	65	22.41	2.49	290	100.00	11.12
Total gainfully Employed ...	310	17.72	2.64	179	10.23	1.53	288	16.17	2.46	149	8.52	1.27	183	10.45	1.56	71	4.06	0.61	153	8.78	1.31	31	1.77	0.26	385	22.01	3.28	1,749	100.00	14.92

TABLE K

Proportion of Cases of Different Nationalities in each Cause as a Percentage of Cases in each Cause

CAUSES	TOTAL	SCOTS		ENGLISH		IRISH		OTHER	
	CASES	CASES	%	CASES	%	CASES	%	CASES	%
CONGENITAL AND UNDETERMINED CONDITIONS:									
Congenital	152	144	94.74	3	1.97	5	3.29	—	—
Abiotrophy	87	72	82.75	5	5.74	10	11.49	—	—
Tumours	3	3	—	—	—	—	—	—	—
Myopia	524	443	84.54	17	3.24	62	11.83	2	0.4
Other Refractions	1	—	—	—	—	1	—	—	—
Glaucoma	279	232	83.15	18	6.45	27	9.68	2	0.7
Cataract	522	421	80.65	12	2.30	87	16.67	2	0.4
Other Primary Defects	28	26	92.85	1	3.57	1	3.57	—	—
Total	1,596	1,341	84.55	56	3.53	193	12.17	6	0.4
INFECTIOUS AND TOXIC CONDITIONS:									
<i>Exogenous—</i>									
Ophthalmia Neonatorum	94	82	87.23	6	6.38	6	6.38	2	2.1
Trachoma	26	19	73.08	1	3.86	5	19.23	1	3.8
Local Infections	79	64	81.01	4	5.06	10	12.66	1	1.3
Other	3	3	—	—	—	—	—	—	—
Total	202	168	83.17	11	5.44	19	9.40	4	2.0
<i>Endogenous—</i>									
Gonorrhœa	2	1	—	1	—	—	—	—	—
Syphilis, Congenital	149	133	89.26	13	8.72	2	1.34	1	0.7
Syphilis, Acquired	192	161	83.85	8	4.16	21	10.94	2	1.1
Smallpox	6	5	—	—	—	1	—	—	—
Measles	28	23	82.14	2	7.14	2	7.14	1	3.6
Scarlet Fever	4	3	—	—	—	1	—	—	—
Others	1	1	—	—	—	—	—	—	—
Meningitis	35	32	91.43	2	5.71	1	2.86	—	—
Tubercle	20	18	90.00	1	5.00	1	5.00	—	—
Phlyctenular	83	73	87.95	3	3.61	6	7.23	1	1.2
Septicæmia, Acute	10	10	—	—	—	—	—	—	—
Septicæmia, Chronic	340	284	83.53	18	5.29	35	10.29	3	0.9
Other	29	27	93.10	—	—	2	6.90	—	—
Total	899	771	85.76	48	5.33	72	8.01	8	0.9
TRAUMATIC AND CHEMICAL CONDITIONS:									
Birth	3	3	—	—	—	—	—	—	—
Non-Industrial	28	20	71.43	2	7.14	6	21.43	—	—
Industrial	80	70	87.5	1	1.25	9	11.25	—	—
War	9	6	66.66	1	11.11	2	22.22	—	—
Not Ascertainable	15	13	86.66	—	—	2	13.33	—	—
Sympathetic Ophthalmia	69	60	86.95	3	4.34	6	8.69	—	—
Tobacco	4	3	—	—	—	1	—	—	—
Alcohol	1	1	—	—	—	—	—	—	—
Other	2	2	—	—	—	—	—	—	—
Total	211	178	84.36	7	3.32	26	12.32	—	—
SYSTEMIC DISEASES:									
Anæmia	1	1	—	—	—	—	—	—	—
Diabetes	40	36	90.00	—	—	3	7.50	1	2.5
Nephritis	5	5	—	—	—	—	—	—	—
Pregnancy	6	6	—	—	—	—	—	—	—
Vascular	97	75	77.31	2	2.06	20	20.61	—	—
Intracranial Neoplasm	36	34	94.44	—	—	2	5.55	—	—
C.N.S. Diseases	36	32	86.48	1	2.70	2	5.40	1	2.8
Other General Diseases	8	8	—	—	—	—	—	—	—
Total	229	197	83.47	3	1.27	27	11.44	2	0.9
NOT CLASSIFIED	21	17	—	1	—	—	—	—	—
TOTAL	3,158	2,672	84.61	126	3.99	340	10.76	20	0.6

together with result of Kahn test

DEFECTS	DISTRIBUTION		DISTRIBUTION OF MALES		MEAN AGE ONSET OF CAUSE		MEAN AGE ONSET OF BLINDNESS		RESULT OF KAHN TEST	
	CASES	%	%	S.E. ±	AGE	S.D. ±	AGE	S.D.	CASES TAKEN	% POSITIVE
Congenital Anomalies ...	140	4.35	52.87	4.12	21	—	14.33	25.8	87	—
Albinism ...	7	0.22	57.14	—	21	—	22.4	—	6	—
Wounds of Eyeball ...	86	2.67	91.86	1.73	36.63	13.75	38.88	12.9	62	3.2
Conjunctiva, Inflamm. Disease ...	55	1.71	43.64	6.69	7.92	17.23	21.38	25.7	32	3.1
Lids and Sac, Inflamm. Disease ...	8	0.25	50.00	—	—	—	46.45	—	6	—
Sclera, Inflamm. Disease ...	1	0.03	—	—	—	—	—	—	1	—
Ulcer Corneae ...	316	9.82	48.42	2.66	19.99	21.84	33.9	24.54	197	5.1
Interstitial Keratitis ...	95	2.95	36.84	4.95	15.57	11.18	25.25	16.19	79	50.6
Other Corneal Conditions ...	11	0.34	36.36	—	—	—	—	—	3	—
Irido Cyclitis ...	279	8.67	43.73	2.93	36.66	20.17	43.64	19.39	192	9.9
Endophthal, etc. ...	81	2.52	56.79	5.50	29.32	20.71	31.88	21.56	55	5.5
Retinitis Exudative ...	49	1.52	44.90	7.10	54.52	18.44	59.00	13.60	23	8.6
Retinitis Degenerative ...	132	4.10	66.67	4.10	34.71	10.29	44.17	17.63	99	13.1
Detachment of Retina ...	35	1.09	71.43	7.64	40.58	15.62	43.84	16.49	27	—
Choroiditis ...	109	3.39	57.80	4.73	34.94	22.80	45.27	19.39	65	33.8
Optic Neuritis or Atrophy ...	380	11.80	68.68	2.38	34.07	19.75	37.81	19.74	246	31.7
Retro Bulbar Neuritis ...	7	0.22	100.00	—	—	—	—	—	5	20.0
Indeterminate ...	9	0.28	—	—	—	—	—	—	7	28.6
Tumour, Extra-Ocular ...	3	0.09	—	—	—	—	—	—	—	—
Tumour, Intra-Ocular ...	2	0.06	—	—	—	—	—	—	—	—
Cataract ...	491	15.25	43.18	2.24	60.5	13.64	65.61	9.72	200	7.0
Aphakia ...	77	2.39	64.94	5.44	—	—	—	—	54	7.4
Other Lens Abnormalities ...	1	0.03	—	—	—	—	—	—	—	—
Myopia ...	525	16.31	50.86	2.18	16.16	17.29	52.40	13.35	373	7.8
Intra-Ocular Hemorrhage ...	5	0.15	40.00	—	—	—	—	—	3	—
Glaucoma ...	280	8.69	56.07	2.97	58.96	9.38	93	14.66	164	7.9
Glaucoma, Secondary ...	3	0.09	—	—	—	—	—	—	1	—
Nystagmus ...	1	0.03	—	—	—	—	—	—	1	—
Cortical and Tract Lesions ...	22	0.68	81.82	8.22	—	—	—	—	9	—
Lid Paralysis ...	2	0.06	—	—	—	—	—	—	—	—
Amblyopia Ex anopsia ...	1	0.03	—	—	—	—	—	—	1	—
Others ...	6	0.19	—	—	—	—	—	—	3	—
	3,219	—	—	—	—	—	—	—	2,011	12.6

TABLE M
Defects in Second Blind Eye arranged according to Age Group of Onset and of Blindness

DEFECTS	CASES	AGE GROUP OF ONSET										AGE GROUP OF BLINDNESS									
		0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+	Not Stated	0-1	1-4	5-15	16-29	30-39	40-49	50-59	60-69	70+	
Congenital Anomalies	140	136	2	2	—	—	—	—	—	—	—	79	10	12	7	5	9	12	4	2	
Albinism	7	7	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	1	—	
Wounds of Eyeball	86	—	2	3	26	21	19	6	8	1	—	—	—	2	22	23	19	8	11	—	
Conjunctiva, Inflamm. Disease	55	19	17	9	2	2	3	3	—	—	—	15	16	3	3	4	1	5	4	4	
Lids and Sac, Inflamm. Disease	8	—	1	3	—	1	—	2	1	—	—	—	—	—	—	—	2	—	4	2	
Sclera, Inflamm. Disease	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ulcer Corneae	316	49	62	96	20	19	22	22	18	8	—	35	37	37	29	30	39	52	41	16	
Interstitial Keratitis	95	3	9	52	20	6	4	1	—	—	—	1	4	32	25	12	12	7	2	—	
Other Corneal Conditions	11	—	—	4	—	1	2	3	1	—	—	—	—	—	—	—	2	4	4	1	
Irido-cyclitis	279	4	9	43	51	48	39	37	34	10	3	3	5	21	39	46	46	51	45	20	
Endophthalmitis, etc.	81	3	6	21	15	8	14	5	7	2	—	2	7	18	14	7	14	9	7	3	
Retinitis, Exudative	49	1	—	2	2	4	4	16	15	5	—	—	—	—	2	4	4	11	18	10	
Retinitis, Degenerative	132	1	7	29	30	14	18	16	8	3	1	2	2	6	19	15	32	32	17	6	
Detachment of Retina	35	—	—	1	1	5	9	6	3	1	—	—	—	1	8	4	9	7	4	2	
Choroiditis	109	4	4	28	12	11	17	14	12	7	—	1	1	10	9	22	18	18	20	10	
Optic Neuritis or Atrophy	380	16	19	58	55	69	74	52	29	6	1	12	16	49	43	61	80	72	37	9	
Retro-bulbar Neuritis	7	—	—	1	1	—	—	—	5	—	—	—	—	1	1	—	—	1	5	—	
Indeterminate	9	1	2	3	2	—	1	—	—	—	—	—	2	2	1	—	2	1	—	—	
Tumour, Extra-ocular	3	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	2	—	1	
Tumour, Intra-ocular	2	—	2	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	
Cataract	491	2	—	5	7	20	34	114	179	128	1	—	1	—	1	5	22	70	202	189	
Aphakia	77	—	—	2	5	4	12	23	23	8	1	—	—	—	1	2	9	15	32	17	
Other Lens Abnormalities	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	
Myopia	525	7	63	307	25	18	16	29	16	6	9	—	—	8	35	44	87	171	144	27	
Intra-ocular Haemorrhage	5	—	—	1	1	1	1	—	1	—	—	—	—	1	1	1	1	—	1	—	
Glaucoma	280	1	—	1	5	10	41	77	98	47	1	—	—	—	2	10	22	66	116	63	
Glaucoma, Secondary	3	—	—	—	—	—	1	—	2	—	—	—	—	—	—	—	1	2	2	—	
Nystagmus	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cortical and Tract Lesions	22	3	—	1	1	1	—	6	7	3	—	2	1	1	1	—	—	5	8	4	
Lid Paralysis	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Amblyopia Ex anopsia	1	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	1	1	—	—	
Others	6	—	—	—	—	—	—	1	3	1	—	—	—	—	—	—	—	2	3	1	

CAUSES OF BLINDNESS	CONGENITAL ANOMALIES	ALBINISM	WOUNDS OF EYEBALL	INFLAMMATORY DISEASES OF CONJUNCTIVA	INFLAMMATORY DISEASES OF LIDS AND LACRIMAL SAC	INFLAMMATORY DISEASE OF SCLERA	INFLAMMATORY DISEASE OF CORNEA—ULCERATIVE	INFLAMMATORY DISEASE OF CORNEA—INTERSTITIAL	OTHER CORNEAL DISEASE	IRIDO CYCLITIS	ENDOPHTHALMITIS	RETINITIS—EXUDATIVE	RETINITIS—DEGENERATIVE	DETACHMENT OF RETINA	CHOROIDITIS (NOT MYOPIC)	OPTIC NEURITIS OR ATROPHY	RETROBULBAR NEURITIS	INDETERMINATE	TUMOUR—EXTRA-OCULAR	TUMOUR—INTRA-OCULAR	CATARACT	APHAKIA	OTHER LENS ABNORMALITIES	MYOPIA	INTRA-OCULAR HÆMORRHAGE	GLAUCOMA—PRIMARY	GLAUCOMA—SECONDARY	NYSTAGMUS	CORTICAL AND TRACT LESIONS	LID PARALYSIS	AMBLYOPIA EX ANOPSIA	OTHERS	TOTAL	
A. CONGENITAL AND UNDETERMINED CONDITIONS:	140	7							2				66			5																	153	
Congenital Anomalies ...															1	18																87		
Abiotrophies ...																																4		
Tumour of Globe and Orbit																																		
Myopia ...																																526		
Other Errors of Refraction																																1		
Glaucoma, Primary ...																																280		
Cataract, Primary ...																																540		
Other Primary Defects ...																																128		
B. INFECTIOUS AND TOXIC CONDITIONS:	140	7							2				66	28	1	23				2	2	466	75		525	280	280						1,619	
Exogenous—																																		
Ophthalmia Neonatorum				37			62																										99	
Trachoma				14	2		10																										26	
Local Septic Infection				2	4		75																										81	
Other Septic Infection				1			2																										3	
Endogenous—				34	6		149																										209	
Gonorrhœa ...																																	2	
Syphilis, Congenital				1			1	81					8		26	13																	152	
Syphilis, Acquired							5						10		28	131																	196	
Smallpox							5																										6	
Measles					2		21								1																		28	
Scarlet Fevers ...																																	4	
Other Fevers ...																																	1	
Meningitis ...																																	39	
Tuberculosis ...																																	20	
Phlyctenular ...							9	2																										84

TABLE N—continued

CAUSES OF BLINDNESS		CONGENITAL ANOMALIES	ALBINISM	WOUNDS OF EYEBALL	INFLAMMATORY DISEASES OF CONJUNCTIVA	INFLAMMATORY DISEASES OF LIDS AND LACRYMAL SAC	INFLAMMATORY DISEASE OF SCLERA	INFLAMMATORY DISEASE OF CORNEA—ULCERATIVE	INFLAMMATORY DISEASE OF CORNEA—INTERSTITIAL	OTHER CORNEAL DISEASE	IRIDO CYCLITIS	ENDOPHTHALMITIS	RETINITIS—EXUDATIVE	RETINITIS—DEGENERATIVE	DETACHMENT OF RETINA	CHOROIDITIS (NOT MYOPIC)	OPTIC NEURITIS OR ATROPHY	RETROBULBAR NEURITIS	INDETERMINATE	TUMOUR—EXTRA-OCULAR	TUMOUR—INTRA-OCULAR	CATARACT	APHAKIA	OTHER LENS ABNORMALITIES	MYOPIA	INTRA-OCULAR HÆMORRHAGE	GLAUCOMA—PRIMARY	GLAUCOMA—SECONDARY	NYSTAGMUS	CORTICAL AND TRACT LESIONS	LID PARALYSIS	AMBLYOPIA EX ANOPSIA	OTHERS	TOTAL
Endogenous—continued Septicæmia, Acute ... Septicæmia, Chronic ... Other General Infect.		—	—	—	—	—	—	3	—	6	2	5	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	10
		—	—	—	—	—	—	18	6	2	211	1	5	19	1	46	30	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	345	
		—	—	—	—	—	—	2	1	2	—	—	2	3	—	2	15	—	2	—	—	—	—	—	—	—	—	—	—	—	—	31		
		—	—	—	—	—	—	—	—	9	268	14	7	40	1	103	225	—	3	—	—	1	—	—	—	2	—	—	—	—	—	—	918	
TRAUMATIC AND CHEMICAL CONDITIONS: Birth Trauma ... Non-Industrial Trauma ... Industrial Trauma ... War Trauma ... Trauma, not Ascertainable Sympathetic Ophthalmia Chemico-Toxic ...		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
		—	—	14	—	—	—	6	—	—	—	—	—	—	—	—	1	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	
		—	—	56	—	—	—	13	—	—	—	—	—	—	—	—	7	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	81	
		—	—	7	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	
		—	—	9	—	—	—	3	—	—	6	65	—	—	—	—	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	
		—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	75	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3		
	—	—	86	—	—	—	22	—	—	—	8	65	—	—	—	—	16	5	1	—	—	—	—	—	—	—	—	—	—	—	—	—	214	
SYSTEMIC DISEASE: Anæmia and Blood Diseases Diabetes ... Nephritis ... Pregnancy ... Vascular Diseases Intracranial Neoplasm ... Other Diseases of Central Nervous System ... Other General Diseases ...		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	236		
NOT CLASSIFIED	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	

Cases arranged according to Decades of Onset of Cause of Blindness and Decades of Onset of Blindness

CAUSES OF BLINDNESS	CASES	DECADES OF ONSET OF CAUSE OF BLINDNESS										DECADES OF ONSET OF BLINDNESS											
		Not Stated	1840-49	1850-59	1860-69	1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930+	Not Stated	1840-49	1850-59	1860-69	1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930+
CONGENITAL AND UNDETERMINED—																							
Congenital Anomalies	153	—	—	1	6	22	26	12	20	36	23	7	—	—	—	2	6	12	9	14	39	42	29
Abiotrophies	87	1	—	—	—	3	8	17	22	22	13	1	—	—	—	—	—	—	4	4	13	44	26
Tumour of Globe and Orbit	4	—	—	—	—	—	—	—	—	1	2	—	—	—	—	—	—	—	—	—	—	4	—
Myopia	526	7	1	9	82	128	124	45	27	35	57	11	9	—	—	—	1	9	18	52	250	187	
Glaucoma	280	1	—	—	—	—	1	5	8	39	158	68	1	—	—	—	—	2	3	19	119	136	
Cataract	540	2	—	—	2	5	5	8	27	99	292	100	2	—	—	—	—	—	8	28	230	272	
Primary Detachment	28	—	—	—	—	—	1	1	4	3	11	8	—	—	—	—	—	—	2	4	11	10	
Others	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total	1,619	11	1	10	90	159	165	88	109	235	556	195	12	—	2	7	13	21	49	155	700	660	
INFECTIOUS AND TOXIC—																							
Exogenous—																							
Ophthalmia Neonatorum	99	—	—	—	4	17	21	16	14	18	7	2	—	—	3	10	18	13	14	20	16	5	
Trachoma	26	—	—	1	1	1	5	4	3	7	4	—	—	—	—	—	—	—	—	4	13	9	
Local Septic Infection	81	—	—	2	1	7	8	8	7	15	25	8	—	—	—	4	5	3	1	11	32	25	
Others	3	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—	—	1	—	1	1	—	
Total	209	—	—	3	6	25	35	28	25	41	36	10	—	—	3	14	23	17	15	36	62	39	
Endogenous—																							
Gonorrhoea	2	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—	—	—	
Syphilis, Congenital	152	—	—	2	—	3	22	21	26	35	36	7	1	—	—	—	7	8	9	34	61	31	
Syphilis, Acquired	196	1	—	—	—	2	1	2	19	40	89	42	2	—	—	—	—	5	27	1	92	70	
Smallpox	6	—	—	—	2	2	2	4	5	4	1	1	—	—	—	2	4	4	1	4	3	1	
Measles	28	—	—	—	1	6	4	4	1	—	3	1	—	—	—	—	1	4	4	—	7	3	
Scarlet Fever	4	—	—	—	—	1	1	1	1	—	1	—	—	—	—	—	1	1	—	—	1	—	
Other Fevers	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	10	14	3	
Meningitis	39	1	—	—	1	3	4	3	3	10	11	3	—	—	1	2	4	2	3	1	10	5	
Tuberculosis	20	—	—	—	7	1	2	1	6	5	5	—	—	—	—	—	—	—	—	—	1	—	
Phlyctenular	84	—	—	—	—	17	23	14	10	6	5	2	—	—	—	5	4	4	8	18	28	17	

TABLE O—continued

CAUSES OF BLINDNESS	CASES	DECADERS OF ONSET OF CAUSE OF BLINDNESS										DECADERS OF ONSET OF BLINDNESS										1930+	
		Not Stated	1840-49	1850-59	1860-69	1870-79	1880-89	1890-99	1900-09	1910-19	1920-29	1930+	Not Stated	1840-49	1850-59	1860-69	1870-79	1880-89	1890-99	1900-09	1910-19		1920-29
Septicæmia, Acute	10	—	—	—	1	1	—	—	2	5	—	1	—	—	—	1	1	—	—	2	5	—	1
Septicæmia, Chronic	345	3	—	1	1	5	26	32	48	70	133	26	1	—	—	—	—	11	16	26	53	143	95
Other Infections	31	—	—	—	—	—	4	2	3	7	11	4	—	—	—	—	—	2	1	2	5	12	9
Total	918	5	—	3	13	39	90	80	125	182	295	86	4	—	1	2	10	34	37	65	158	371	236
TRAUMATIC AND CHEMICAL—																							
Injury—																							
Birth Injury	3	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	1	—	2
Non-Industrial	28	—	—	—	—	—	—	—	—	6	5	5	—	—	—	—	—	—	—	—	6	—	7
Industrial	81	—	—	—	—	2	1	6	12	26	25	9	—	—	—	—	2	1	4	7	23	33	11
War	9	—	—	—	—	—	—	—	—	8	—	—	—	—	—	—	—	—	—	1	7	1	—
Not Ascertained...	15	—	—	—	—	—	2	3	2	5	3	—	—	—	—	—	—	—	1	4	5	5	—
Sympathetic Ophthalmia	71	—	—	—	—	3	8	9	17	10	17	7	—	—	—	—	2	6	8	16	7	22	10
All Injuries	207	—	—	—	—	5	15	20	38	56	50	23	—	—	—	—	4	9	15	33	49	67	30
Chemico-toxic	7	1	—	—	—	—	—	—	1	1	4	—	1	—	—	—	—	—	—	—	—	3	3
SYSTEMIC DISEASE—																							
Diabetes	43	—	—	—	—	—	—	—	—	2	23	18	—	—	—	—	—	—	—	—	1	14	28
Vascular Disease	100	1	—	—	—	—	—	—	1	13	50	35	1	—	—	—	—	—	—	—	4	31	64
Intracranial Neoplasm	36	—	—	—	—	—	—	—	—	1	19	16	—	—	—	—	—	—	—	—	—	16	20
Disease of Central Nervous System	37	—	—	—	—	—	1	3	4	9	10	9	—	—	—	—	1	1	3	3	8	11	10
Other General Diseases	20	—	—	—	—	—	1	2	2	5	2	8	—	—	—	—	—	—	2	1	3	4	10
Total	236	1	—	—	—	1	2	5	7	30	104	96	1	—	—	—	1	1	5	4	16	76	132
Not Classified	23	1	—	—	—	1	2	3	1	6	5	4	1	—	—	—	—	2	—	1	8	6	5
GRAND TOTAL	3,219	19	1	16	109	230	309	224	306	551	1,050	404	19	—	1	7	36	82	95	167	422	1,285	1,105