

T H E S I S

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OCCUPATION
and
PHYSICAL CONDITION
of
WORKERS
in the
CITY of LONDON

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F O R E W O R D.

In the early period of the War I had an opportunity at the City of London Recruiting Depot to investigate the physical condition of the "City" workers. The opportunity was unique- its like has never occurred before and may never occur again - and I took advantage of it to collect various statistics. Of these perhaps the most interesting is the bearing of occupation on physical condition and I have embodied the results of this in the following Thesis.

My thanks are due to the clerical staff of the Depot for help in assembling the material, to the Statistical Department of the Ministry of National Service who worked out the percentages for me and to the Chief Commissioner of Medical Services for official permission to use the statistics.

ENQUIRY and RESULTS.

The object of this enquiry is to try in some measure to show how different occupations stand in regard to development, defects and disease.

The men dealt with were the workers of the "City". To a large extent these belong to a special class - the employees of the great financial and mercantile institutions of London - and it is their condition that constitutes the chief interest of the results obtained.

The investigation is confined to the six months, 18th August 1914 to 13th February 1915, because during this period the men examined were practically all drawn from the City proper. Afterwards drafts were sent from elsewhere and as regards the special workers of the City the results ceased to have any value.

The men were all voluntary recruits between the ages of 19 and about 40. Each was fully and carefully examined even during the rush of the early months of the War and complete records were kept. About half of the examinations were made by myself and the remainder chiefly by the late Colonel Lees Hall, R.A.M.C. and Captain William Murray R.A.M.C

The total number of men examined during the six months was over 8000, which for an enquiry of this kind is sufficient to give a reasonable basis for average results, and they were

either passed as fit for general service or rejected.

The causes of rejection are classified as follows :-

- (1) Under Height Standard
- (2) Under Chest Standard
- (3) Congenital and Acquired Deformities
- (4) Defective Vision
- (5) Deafness and Diseases of the Ear
- (6) Diseases of the Nervous System
- (7) Defective Teeth
- (8) Hernia
- (9) Defective Lungs
- (10) Defective Heart
- (11) Varicose Veins
- (12) Genito-Urinary
- (13) Venereal Diseases
- (14) Skin Diseases
- (15) Miscellaneous

The minimum height was 60 in., the minimum chest measurement 33 in., and the minimum vision taken without glasses, 6 - 6 with either eye and 6 - 60 with the other. All men ~~were~~ rejected who showed deformities which would interfere with military efficiency, appreciable deafness or active ear disease, organic nervous disease or functional condition likely to interfere with efficiency, teeth too defective for proper mastication - no allowance was made for artificial dentures, all hernias, organic lung disease

and asthma, organic disease and severe functional disorders of the heart, varicose veins likely to cause trouble in marching, any serious genito-urinary disease - no systematic test of the urine was made, gonorrhoea or active syphilis, and skin disease if severe, disfiguring or contagious. The miscellaneous class of rejections includes a great variety of diseases none of which are numerous enough to be of any statistical value.

The declared occupations numbered over 300 and are classified in the following groups :-

- (1) Professional and Commercial
- (2) Skilled Manual Workers
- (3) Warehousemen
- (4) Clerks etc.
- (5) Distributive and Domestic
- (6) Miscellaneous
- (7) Shop Assistants
- (8) Unskilled Manual Workers
- (9) Manufacturing Trades
- (10) Printers and Compositors

The above arrangement forms a descending series of physical efficiency and this order is adhered to throughout.

The numbers and the individual occupations in the various groups are :-

PROFESSIONAL and COMMERCIAL.

This group numbered 390 and includes the following occupations :-

PROFESSIONAL :

Actors	9
Artists	11
Authors	2
Analysts	2
Architects	9
Barristers	5
Clerical	2
Civil Service	14
Dentists	6
Journalists	16
Librarians	5
Medical	3
Missionaries	2
Parsons	2
Reporters	2
Schoolmasters	23
Solicitors	15
Surveyors	6
Valuers	2
Miscellaneous	10

COMMERCIAL :

Agents	27
Agents (Commission)	3
Brokers (Produce)	11
Brokers (Stock)	8
Buyers	3
Cheese Factors	2
Company Directors	19
Merchants	13
Manufacturers	6
Interpreters	2
Ship Owners	2
Stock Exchange	5
Travellers	128
Miscellaneous	5

SKILLED MANUAL WORKERS.

This group, arranged under three sub-headings, numbered 647 and included the following occupations :-

ENGINEERS :

Boilermakers	6
Engine Drivers	11
Engineers	159
Enginemen	3
Electricians	62
Fitters	74
Mechanics	38

ENGINEERS (continued) :-

Motermen	2
Miscellaneous	2

MARINE :

Lighthouse--keepers	2
Mercantile Mariners	10
Seamen	71
Miscellaneous	7

BUILDING TRADE :

Bricklayers	19
Builders	5
Carpenters	40
Cranemen	4
Cranedriviers	3
Housedecoraters	15
Masons	6
Plumbers	36
Scaffolders	2
Steeplejack	1
Stone Repairers	4
Slaters	2
Painters	61
Plasters	2

WAREHOUSEMEN.

This group includes 674 men.

CLERKS.

This group numbers 2054 and includes the following occupations :-

Accountants	33
Cashiers	8
Clerks	1958
Draughtsmen	29
Printers Readers	2
Secretaries	11
Ticket Writers	3
Writers	9
Miscellaneous	2

MISCELLANEOUS.

This group numbered 774 and includes the following occupations :-

Attendants	13
Bailiffs	3
Bioscope Operators	2
Bootblacks	3
Bus Conductors	4
Cable Operators	3
Canvassers	3
Checkers	15

MISCELLANEOUS (continued) :-

Coachmen	16
Collectors	8
Commissionaires	12
Cyclists	4
Dealers	13
Designers	3
Draymen	2
Engine-cleaners	4
Farmers	33
Farm Labourers	11
Footballers	5
Feather Samplers	2
Hammermen	2
Hawkers	21
Horsekeepers	12
Independent	67
Improvers	5
Jockeys	2
Liftmen	43
Lightermen	6
Messengers	103
Musicians	16
Newsvendors	41
Pawnbrokers	9
Planters	7
Post Office Servants	2
Postmen	13

MISCELLANEOUS (continued) :-

Police Constables	3
Press-hands	4
Prospectors	2
Ranchers	5
Roundsmen	3
Railway Servants	9
Scavengers	22
Scullers	2
Stevedores	10
Storekeepers	34
Students	24
Telegraphists	6
Telephonists	15
Timekeepers	2
Van Boys	3
Van Guards	16
Waiters	61
Window Cleaners	14
Watchmen	2
Window Dressers	3
Unclassified	24

DISTRIBUTIVE and DOMESTIC

This group, arranged under three sub-headings, numbered 634 and includes the following occupations :-

TRADESMEN :

Bacon Dryer	1
Bakers	28
Booksellers	2
Butterman	1
Butchers	76
Chemists	21
Clothiers	2
Coffee Roasters	1
Confectioners	5
Dairymen	14
Dispensers	2
Druggists	5
Fishmongers	24
Fish Curers	2
Fruit and Florists	11
Oil Trade	3
Oil Miller	1
Picture Dealer	1
Sweet Boiler	1
Stationers	7
Tea Trade	2
Tea Samplers	6
Tobacconists	6
Tobacco Strippers	6
Undertaker	1

FOOD and DRINK :-

Barmen	70
Caterers	4
Cellermen	33
Cooks	56
Boiler	1
Fish Fryer	1
Hotel Managers	2
Restaurant Assistants	2
Scullerymen	4
Stewards	36

, DOMESTIC :-

Butlers	4
Caretakers	6
Chauffeurs	24
Chambermen	2
Call Boy	1
Footmen and Grooms	48
Gardeners	11
Housekeepers	8
Hairdressers	22
Servants	4
Stablemen	5
Valets	13

SHOP ASSISTANTS.

This group includes 369 men.

UNSKILLED MANUAL WORKERS.

This group numbered 1768 and includes the following occupations :-

Carmen	324
Labourers	517
Packers	229
Porters	593
Miscellaneous	45

MANUFACTURING TRADES.

This group numbered 844 and includes the following occupations :-

Barometer Makers	2
Basket Makers	3
Bat Makers	3
Blacksmiths	14
Bookbinders	25
Boot Makers	27
Box Makers	8
Brass Finishers	4
Brassfounders	2
Brewers	8
Brick Makers	49

MANUFACTURING TRADES (continued) :-

Coopers	6
Cabinet Makers	49
Colliers	5
Chasers (Silver)	2
Cutters	10
Cutters (Box)	3
Cutters (Cardboard)	4
Cutters (Ivory)	2
Cutters (Fret)	3
Cutters (Skirt)	16
Coach Makers	3
Clothworkers	2
Card Makers	5
Chair Makers	2
Cycle Repairers	2
Case Makers	7
Dyers	6
Enamellers	2
Engravers	13
Furriers	22
Factoryhands	8
French Polishers	33
Farriers	4
Frame Makers	3
Foremen	3

MANUFACTURING TRADES (continued) :-

Fancy Leather Workers	2
Galvanizers	2
Grinders (Stone)	2
Gold Blockers	5
Glass Bevellers	2
Glass Workers	2
Glass Blowers	5
Harness Makers	2
Hat Blockers	3
Hat Makers	13
Instrument Makers	8
Ink Makers	8
Iron Moulders	3
Iron Plate Workers	2
Joiners	5
Jewellers	22
Laundry-hands	2
Leather Workers	21
Lamp Makers	2
Moulders	4
Metal Workers	9
Mount Fitters	3
Machinists	39
Mantle Trimmers	6

MANUFACTURING TRADES (continued) :-

Miners (Coal)	4
Paper Stainers	3
Packing Case Makers	13
Polishers (Metal)	11
Potters	2
Pipe Fitters	3
Platers (Electro)	2
Photographers	17
Pressers	12
Piano Makers	2
Pavioners	5
Saddlers	5
Scale Makers	3
Sorters (Cork)	2
Stampers	3
Sponge Trimmers	2
Skin Dressers	2
Stereotypers	3
Steelworkers	2
Stick Makers	9
Solderers	3
Sawyers	17
Tailers	110
Trunk Makers	4
Type Founders	4

MANUFACTURING TRADES (continued) :-

Turners	6
Tinsmiths	18
Upholsterers	12
Umbrella Makers	6
Weavers (Silk)	2
Wood Carvers	6
Watchmakers	7
Writers (Sign)	6
Wheelwrights	5
Wiremen	8
Wireworkers	4
Miscellaneous	37

PRINTERS and COMPOSITERS.

This group included 339 men.

The results are given in tabular form :-

Table A shows the occupational groups in order of efficiency and the number of rejections in each group for each cause of rejection.

Table B shows in the same way the percentages of rejection in each group for each cause of rejection.

Table C gives the relative order of the occupations in each cause of rejection.

No comment of any kind is required as the Tables have been constructed to bring out all the results clearly both generally and in detail.

It may, however, be pointed out that the results fall within what might have been expected. That the Professional and Commercial group should come first was certainly to be expected. Professional men as a class have a higher standard of physical fitness and the young business man of London is a judicious blend of brains and athleticism.

// The high taken by the Skilled Manual Worker is largely the effect of what may termed occupational selection. It selects the more efficient for the more desirable occupations and has specially free play in this group. The reverse side of occupational selection, the leaving of the weaker for the less desirable occupations, is well shown in the unfavourable position taken by the Unskilled Manual Workers.

The high standard of the Warehousemen and the contrast between them and the allied group of Shop Assistants may be explained by the fact that the former are nearly all recruited from the country - curiously enough ^{chiefly} from Wales and Cornwall.

The large group of Clerks are nearly all drawn from London and may be taken as a typical product of middle class urban life. That they come out ~~so~~ well is one of the most satisfactory features of the enquiry.

The position of the Distributive and Domestic group was to be expected from the unfavourable conditions of many of its occupations such as barmen and bakers and the same applies to the Printers and Compositors.

The bad record of the Manufacturing Trades gives food for serious thought and it is a point of special interest that the relative position can be seen in London. In a purely manufacturing town the majority and probably the fittest are forced into the dominating industry and any comparison with other occupations is obscured.

Although it does not come within the scope of this enquiry a brief reference may be made to two points at present of public interest. One is the remarkable absence of venereal disease - only eight cases, most of them syphilis, were detected. The other is the high standard as a whole, over 70 per cent were A1 men, which does not bear out the commonly accepted statements about a C111 population. The data for these statements were no doubt obtained from a later stage of recruiting and, taken by themselves, are highly misleading.

T A B L E A. - REJECTED AND CAUSES OF REJECTION

Occupations in Descending Series of Physicial Efficiency	Number Examined	Under Height Standard	Under Chest Standard	Congenital & Ac- quired Deformities	Defective Vision	Deafness & Dis- eases of the Ear	Diseases of the Nervous System	Defective Teeth	Hernia	Defective Lungs	Defective Heart	Varicose Veins	Genito-Urinary	Veneral Diseases	Skin Diseases	Miscellaneous	Total Rejected	% Rejected of Number Examined
Professional & Commercial	390	1	15	5	16	2		13	3	2	7	6		2		5	77	19.7
Skilled Manual Workers	647	9	41	6	28	3	4	15	7	11	9	3	3		3	10	152	23.5
Warehousemen	674	3	54	1	45	8	1	9	3	7	18	1	6		2	5	163	24.2
Clerks etc.	2,054	5	225	8	137	8	3	20	18	17	51	15	5		3	9	524	25.5
Miscellaneous	774	7	80	10	32	3	2	16	5	10	21	9	3		3	9	210	27.1
Distributive & Domestic	634	10	44	4	46	3	1	8	8	4	25	9	5		3	5	175	27.6
Shop Assistants	369	3	36	1	21		1	6	6	3	13	3	6		1	2	102	27.6
Unskilled Manual Workers	1,708	44	157	19	119	14	8	27	38	29	38	30	8	3	7	11	552	32.4
Manufacturing Trades	844	13	104	7	44	17	6	12	12	19	27	12	3	2	4	4	286	33.8
Printers & Compositors	339	5	50	6	31	4		5	5	6	15	2	2	1		1	133	39.2
Grand Total	8,433	100	806	67	519	62	26	131	105	108	224	90	41	8	26	61	2,374	28.2

% of Total Rejected 4.2 3.4 2.8 21.9 2.6 1.1 5.5 4.4 4.6 9.4 3.8 1.7 .3 1.1 2.6

% of Number Examined 1.2 9.5 .8 6.2 .7 .3 1.6 1.2 1.3 2.7 1.1 .5 .1 .3 .7

T A B L E B. - PERCENTAGE OF REJECTIONS

% of Number Examined Above

% of Number Rejected Below

Occupations in Descending Series of Physical Efficiency	Under Height Standard	Under Chest Standard	Congenital & Ac- quired Deformities	Defective Vision	Deafness & Dis- eases of the Ear	Diseases of the Nervous System	Defective Teeth	Hernia	Defective Lungs	Defective Heart	Varicose Veins	Genito-Urinary	Venereal Diseases	Skin Diseases	Miscellaneous	% Rejected of Number Examined
Professional & Commercial	.3 1.3	5.8 19.5	1.3 6.5	4.1 20.8	.5 2.6		3.3 16.9	.8 4.	.5 2.6	1.8 9.1	1.5 7.8		.5 2.6		1.3 6.3	19.7
Skilled Manual Workers	1.4 5.9	6.3 27.	.9 4.	4.3 18.4	.5 2.5	.6 2.	2.3 10.	1.1 4.6	1.7 7.2	1.4 5.9	.5 2.	.5 2.5		.5 2.5	1.5 6.5	23.5
Warehousemen	.4 1.8	8. 33.1	.2 .6	6.7 27.6	1.2 5.	.2 .6	1.3 5.5	.4 1.8	1. 4.3	2.7 11.1	.2 .6	.9 3.7		.3 1.2	.7 3.1	24.2
Clerks etc.	.2 1.	11. 42.9	.4 1.5	6.7 26.2	.4 1.5	.1 .6	1. 3.8	.9 3.4	.8 3.2	2.5 9.7	.7 2.9	.2 1.		.1 .6	.5 1.7	25.5
Miscellaneous	.9 3.3	10.3 38.1	1.3 4.8	4.1 15.2	.4 1.4	.3 1.	2.1 7.6	.6 2.4	1.3 4.8	2.6 10.	1.3 4.3	.4 1.4		.4 1.4	1.3 4.3	27.1
Distributive & Domestic	1.6 5.7	6.9 25.1	.6 2.3	7.3 26.3	.5 1.7	.2 .6	1.2 4.6	1.2 4.6	.6 2.3	4. 14.3	1.4 5.	.8 2.9		.5 1.7	.8 2.9	27.6
Shop Assistants	.8 2.9	9.7 35.3	.3 1.	5.7 20.6		.3 1.	1.6 5.9	1.6 5.9	.8 2.9	3.5 12.7	.8 2.9	1.6 5.9		.3 1.	.6 2.	27.6
Unskilled Manual Workers	2.6 7.9	9.2 28.4	1.1 3.4	7. 21.6	.8 2.5	.5 1.4	1.6 5.	2.2 7.	1.7 5.2	2.2 7.	1.8 5.4	.5 1.4	.2 .5	.4 1.3	.6 2.	32.4
Manufacturing Trades	1.5 4.5	12.3 36.4	.8 2.4	5.2 15.4	2.1 5.9	.7 2.2	1.4 4.2	1.4 4.2	2.2 6.6	3.2 9.4	1.4 4.2	.4 1.1	.2 .7	.5 1.4	.5 1.4	33.8
Printers & Compositors	1.5 3.8	14.7 37.6	1.8 4.5	9. 23.3	1.2 3.		1.5 3.8	1.5 3.8	1.8 4.5	4.4 11.3	.6 1.5	.6 1.5	.3 .7		.3 .7	39.2
% of Total Examined	1.2	9.5	.8	6.2	.7	.3	1.6	1.2	1.3	2.7	1.1	.5	.1	.3	.7	
% of Total Rejected	4.2	34.	2.8	21.9	2.6	1.1	5.5	4.4	4.6	9.4	3.8	1.7	.3	1.1	2.6	

T A B L E C . - R E L A T I V E O R D E R O F O C C U P A T I O N S I N P E R C E N T A G E S O F R E J E C T I O N

<u>Under Height Standard</u>		<u>Under Chest Standard</u>		<u>Con Genital and Acquired Deformities</u>	
Clerks etc.	.2	Professional and Commercial	5.8	Warehousemen	.2
Professional and Commercial	.3	Skilled Manual Workers	6.3	Shop Assistants	.3
Warehousemen	.4	Distributive and Domestic	6.9	Clerks etc.	.4
Shop Assistants	.8	Warehousemen	8.	Distributive and Domestic	.6
Miscellaneous	.9	Unskilled Manual Workers	9.2	Manufacturing Trades	.8
Skilled Manual Workers	1.4	Shop Assistants	9.7	Skilled Manual Workers	.9
Manufacturing Trades	1.5	Miscellaneous	10.3	Unskilled Manual Workers	1.1
Printers and Compositors	1.5	Clerks etc.	11.	Professional and Commercial	1.3
Distributive and Domestic	1.6	Manufacturing Trades	12.3	Miscellaneous	1.3
Unskilled Manual Workers	2.6	Printers and Compositors	14.7	Printers and Compositors	1.8
<u>Defective Vision</u>		<u>Deafness and Diseases of the Ear</u>		<u>Defective Teeth</u>	
Professional and Commercial	4.1	Shop Assistants		Clerks etc.	1.
Miscellaneous	4.1	Clerks etc.	.4	Distributive and Domestic	1.2
Skilled Manual Workers	4.3	Miscellaneous	.4	Warehousemen	1.3
Manufacturing Trades	5.2	Professional and Commercial	.5	Manufacturing Trades	1.4
Shop Assistants	5.7	Skilled Manual Workers	.5	Printers and Compositors	1.5
Warehousemen	6.7	Distributive and Domestic	.5	Shop Assistants	1.6
Clerks etc.	6.7	Unskilled Manual Workers	.8	Unskilled Manual Workers	1.6
Unskilled Manual Workers	7.	Warehousemen	1.2	Miscellaneous	2.1
Distributive and Domestic	7.3	Printers and Compositors	1.2	Skilled Manual Workers	2.3
Printers and Compositors	9.	Manufacturing Trades	2.1	Professional and Commercial	3.3

T A B L E C. (Continued)

<u>Hernia</u>		<u>Defective Lungs</u>		<u>Defective Heart</u>	
Warehousemen	.4	Professional and Commercial	.5	Skilled Manual Workers	1.4
Miscellaneous	.6	Distributive and Domestic	.6	Professional and Commercial	1.8
Professional and Commercial	.8	Clerks	.8	Unskilled Manual Workers	2.2
Clerks etc.	.9	Shop Assistants	.8	Clerks etc.	2.5
Skilled Manual Workers	1.1	Warehousemen	1.	Warehousemen	2.7
Distributive and Domestic	1.2	Miscellaneous	1.3	Miscellaneous	2.7
Manufacturing Trades	1.4	Skilled Manual Workers	1.7	Manufacturing Trades	3.2
Printers and Compositors	1.5	Unskilled Manual Workers	1.7	Shop Assistants	3.5
Shop Assistants	1.6	Printers and Compositors	1.8	Distributive and Domestic	4.
Unskilled Manual Workers	2.2	Manufacturing Trades	2.2	Printers and Compositors	4.4
<u>Varicose Veins</u>		<u>Genito Urinary</u>		<u>Miscellaneous</u>	
Warehousemen	.2	Professional and Commercial		Clerks etc.	.7
Skilled Manual Workers	.5	Clerks	.2	Printers and Compositors	.7
Printers and Compositors	.6	Manufacturing Trades	.4	Shop Assistants	1.1
Clerks etc.	.7	Miscellaneous	.4	Warehousemen	1.2
Shop Assistants	.8	Skilled Manual Workers	.5	Distributive and Domestic	1.4
Miscellaneous	1.2	Unskilled Manual Workers	.5	Unskilled Manual Workers	1.7
Distributive and Domestic	1.4	Printers and Compositors	.6	Professional and Commercial	1.8
Manufacturing Trades	1.4	Distributive and Domestic	.8	Miscellaneous	1.8
Professional and Commercial	1.5	Warehousemen	.9	Manufacturing Trades	1.9
Unskilled Manual Workers	1.8	Shop Assistants	1.6	Skilled Manual Workers	2.6