

AN INVESTIGATION INTO THE RELATIONSHIP
OF HEREDITY AND ENVIRONMENT
TO THE INCIDENCE OF MENTAL DEFICIENCY IN CHILDREN.

1919 - 1932.

Kingston upon Hull.

By

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It has long been recognised that the problem of the Mentally deficient is one of considerable social importance.

According to the findings of Dr. Lewis in the Report of the Mental Deficiency Committee in 1929, while mentally defective children are found in all grades of Society, they are most prevalent in the lowest social stratum, whereas the lowest grades - the idiots and imbeciles, are found in all social grades.

Experience of social work generally, and this investigation of the incidences of mental deficiency, in particular, would appear to suggest that in a large number of cases of feeble minded children the bad social environment can be explained by the fact that one or both parents is of low mental capacity, and, therefore, that both the bad environment and the existence of a feeble minded child are to a certain extent due to the poor intelligence of a parent or both parents.

The dull and backward - the mentally weak tend always to drift to the slum, there to herd with others of their kind - unfit for work and living on charity.

In all large cities, where slum clearance work is being done and families being transferred to a new housing estate, it is found that a certain number take with them their inability to make good homes, and their homes in the new areas become new slum dwellings.

Tredgold ("Mental Deficiency" 5th Edition, pages 467/469) states that evidence has been produced that bad housing and industrial conditions are not the cause of mental defect as is sometimes alleged, since there is a greater preponderance of these persons in the Country where, according to vital statistics, the conditions are more favourable to health and longevity.

Tredgold points out also that this increased incidence in rural areas is due to migration to the towns of the most efficient stock, leaving the poorer stock to breed amongst themselves, and thus to aggravate their inherent inferiority.

Dr. Lewis' figures show that the disparity between urban and rural areas has increased since the investigations of the Royal Commission on the Feeble Minded in 1908, and this is a fact of no little national importance.

It is a significant fact that the incidence of mental defect is greater where the infantile mortality rate is low than where it is high. This is borne out in the figures for Hull, which I propose to use and which will be tabulated later on in this paper.

Doubtless the lower death rate of infants is a cause for congratulation, but it is important to realise that the mentally and physically unfit infant is also assisted to survive when previously it died early, and it may be that in this way we are saving more "liabilities" than "assets" as Tredgold calls them.

It is clear, however, that the whole question of mental defect has now assumed an importance that calls for serious consideration.

One of the most important aspects of the problem is the influence of heredity and environment.

For my purpose, good heredity is that in which there is no ascertainable trace of mental defect, insanity or epilepsy.

Bad heredity is one in which near relatives, i.e., sisters or brothers, parents, cousins, uncles or aunts, are known to have been defective. Insanity in Grandparents and Great aunts and uncles is also included.

A family history of many miscarriages or still births, where there is some evidence also of syphilis, is also included in the "bad heredity" lists. Also families with a bad illegitimacy history.

Good environment is taken to mean a reasonably comfortable home in a respectable area, with the exceptions, occasionally noted, that the child's parents and home were distinctly above the level of their surroundings.

Bad environment - Here one includes slum homes - homes where alcoholism is excessive and where children are grossly neglected. One does not, therefore, chart as 'bad' a home in which there is deep poverty unless these other factors are also present.

Many case sheets give no definite information on these matters, and therefore if one has no other knowledge of the conditions they are charted as good heredity and good or bad environment, depending on the locality in which the home is situated. On the other hand, in the majority of cases, i.e. those where I conducted the examination, particular attention was given to eliciting all the facts appertaining to the question of heredity and environment.

For the purpose of this investigation it was considered advisable to divide the cases investigated into groups.

The first group comprised the lower grades of mental defects - the idiots and imbeciles and low grade ineducable mentally defective children.

The second group comprises the educable group who have attended or are now attending on trial the special school in the city, or who are certified and awaiting admission thereto.

The third group is that of the child examined for mental defect and certified dull.

A fourth group is that of retarded children.

A fifth group of cases have been in the special school and have been discharged to work or at 16 years when legally exempt. These are all children who, at one time or another for various causes, have been formally examined as to their mental condition.

As a contrast to these, children attending ordinary elementary schools were assessed as to intelligence by means of group tests. The schools chosen were, in environments, as different as possible.

BOYS.

- (1) A school in a slum area. Here one finds much poverty, shiftlessness and many families existing on parish relief. The children are ragged, unkempt and underfed.
- (2) A school in an area in which there is at present much unemployment, but where normally the standard of living is higher than the former school. The fathers are small shopkeepers, dock labourers and trawlermen.
- (3) Boys in a school on a new housing estate. They come from many schools and are tabulated separately according to the type of their former school.

GIRLS.

- (1) A slum area school. Here poverty and unemployment are rife, and the majority of the parents are of a low educational level. Many of these children are underfed - in spite of free school meals - but the standard of cleanliness is high on account of the efforts of the teachers.
- (2) Two Girls schools - both small ones with very similar and good environment and parents of a much higher mental grade. Here also there is unemployment and consequent poverty, but the

children are neat and clean and appear to be well fed. Their fathers are mainly seafaring men - skippers and mates on trawlers, engineers, railway men, guards and drivers.

- (3) The lower forms of a Secondary school were also examined. One half of the girls have won scholarships from elementary schools and the remainder are fee paying scholars from good homes.
- (4) Girls in a private school. Here, the fathers are professional men or successful business men.

INFANTS.

The term "infant" is an elastic one and includes children of from 5 to 8 years.

An effort was made to examine infants just after their admission to school in order that the educational factor might, as far as possible, be eliminated.

This was possible in two schools only, one a slum school, and one a good elementary school. The results are interesting.

Older infants were examined in a slum school and a fairly good elementary school and in the kinder-

garten of a private school for girls. Thus, as far as possible, one endeavoured to find representative groups of children.

TEST MATERIAL.

All children examined for mental deficiency are tested by the Stanford Revision of the Binet - Simon tests. For the group tests the following were used :-

- (a) For 5 - 8 years old. Otis (Primary A.) Intelligence Scale.
- (b) For 8 - 11 years old. Simplex Junior Intelligence Scale.
- (c) For 11 - 14 years old. Northumberland Intelligence Tests.

The results are set out in tables in the body of the text.

NUMBERS OF CASES INVESTIGATED.

- Group (1) Idiots - imbeciles and low grade feeble minded children. These number 556 and include several family groups.
- (2) Educable defectives now in the special school or awaiting admission thereto - 194.
- (3) Dull or backward children who have been formally examined - 325.

- Group (4) Senior children tested by the Northumberland
Group test - 556 girls. 105 boys.
- (5) Junior children tested by the Simplex
Junior Intelligence Scale - 261 girls.
354 boys.
- (6) Infants tested by the Otis Performance
tests, Primary A. 385.
- (7) After-care cases - 240.

G R O U P 1.

IDIOTS - IMBECILES

&

LOW GRADE FEEBLE MINDED CHILDREN.

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TOTAL NUMBER 556.

Sub. Group 1. - Idiots.

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Taking first the idiots. Of this, the lowest grade of mental defect, 21 cases are noted. The distribution was as follows :-

	Good environment - good heredity.
(a)	<hr/> 8 <hr/>
	Good environment - bad heredity.
(b)	<hr/> 3 <hr/>
	Environment bad - heredity bad.
(c)	<hr/> 7 <hr/>
	Environment good - heredity good or not known.
(d)	<hr/> 3 <hr/>

GOOD ENVIRONMENT - GOOD HEREDITY.

(a) Here the children came from good homes, had intelligent parents and, so far as could be ascertained, no family history of mental defect or insanity. One is noted to have had spastic paraplegia and one to have been paretic and epileptic.

GOOD ENVIRONMENT - BAD HEREDITY.

(b) These three children came from good homes, but the family history is tainted as shown by the following details :-

- (1) A history of a mentally defective aunt and two mentally defective sisters.
- (2) A feeble minded and syphilitic father.
- (3) A feeble minded mother, whose father had died in an asylum. The child was paraplegic, aphasic and epileptic.

ENVIRONMENT BAD - HEREDITY BAD.

(c) These seven cases had a bad heredity and a bad environment, as shown below :-

- (1) Illegitimate deaf mute child, grandfather epileptic, mother of "low mentality."
- (2) Mother epileptic - sister imbecile.
- (3) Mother epileptic, sister idiot. This woman had four children - the eldest and youngest were idiots, the second and third were dull, but not to a marked degree.
- (4) Microcephalic - great aunt insane.
- (5) Exceptionally alcoholic parents, frequently in prison for child neglect and drunkenness.
- (6) This child was paralysed in both legs. His mother was feeble minded and his father epileptic.
- (7) Drunken, immoral family.

ENVIRONMENT GOOD - HEREDITY GOOD OR NOT KNOWN.

(d) The following are some details of this group :-

- (1) Epileptic and hemiplegic.
- (2) "Caesarian" baby - an only child - born asphyxiated - epileptic.
- (3) Son of a woman who had nine legitimate, intelligent children and, when these were mostly grown up, she deserted them. Co-habiting with another man, she gave birth to this idiot. No details of her personal history, or that of the father, are obtainable, but as her legitimate children are intelligent, it would appear probable that the defect is on the father's side, or, alternatively, that her failing reproductive powers made it impossible for her to produce a normal child.

GROUP 1.

IDIOTS - IMBECILES,

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LOW GRADE FEEBLE MINDED CHILDREN.

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Sub.Group 11 - Imbeciles.

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IMBECILES.

Of this, the medium grade of mental defect, there are 275 examples.

Their distribution is as follows :-

(a) Environment good - heredity good or not known.
134

(b) Environment good - heredity bad
50

(c) Environment bad - heredity bad
147.

(d) Environment bad - heredity good or not known.
54.

ENVIRONMENT GOOD - HEREDITY GOOD OR NOT KNOWN.

(a) In this group the children came from good homes and so far as could be ascertained there was no neuropathic family history.

108 have no record of any associated special defect.

26 had one or more of the following defects :-

Paresis 8

Epilepsy 14

Grand Mal in all cases.

Semi-mutism 4.

The following special types were noted :-

Micro cephalic	7
Hydrocephalic	4
Mongol	15
Cretin	4

ENVIRONMENT GOOD - HEREDITY BAD.

(b) Here again the homes were good, but the heredity tainted. The following examples illustrate this.

- (1) Great uncle insane.
- (2) Uncle epileptic.
- (3) This child lived with its grandparents in a good district and was excellently cared for. He was illegitimate - had an alcoholic father. The mother's uncle died insane.
- (4) The father's mother and brother are insane. There is a tubercular history on both sides of the family.
- (5) A cousin of the father and a daughter of father's brother are imbecile.
- (6) Father's sister is feeble minded.

Of the 50 children who compose this group,
21 showed no associated special defect; 21 had
defects as under :-

Paresis	4
Epilepsy	8
Semi-mute or mute ..	7
Deaf and Dumb	2

Eight were special types :-

Hydrocephalic	1
Mongol	6
Cretin	1

ENVIRONMENT BAD - HEREDITY BAD.

(c) Here environment and heredity both were
unsatisfactory. The type of case is shown by the
following details :-

- (1) Had two feeble minded brothers. Mother
and grandmother epileptic. Mother's
sister insane.
- (2) Father died insane. Uncle epileptic.
Mother grossly alcoholic.
- (3) Sister and cousin feeble minded. Another
cousin insane. A tubercular family.

- (4) An illegitimate child. Parents had four illegitimate children and then married. They are frequently in prison for child neglect and drunkenness. Mother is feeble minded. Her sister is insane. Of the illegitimate children, two attended the special school for mentally defective children and both were committed to an institution on account of various acts of indecent assault and stealing.
- (5) A brother and sister are feeble minded - a brother imbecile. Uncle feeble minded and two cousins both low grade, feeble minded children.
- (6) Grandfather died insane. Mother is feeble minded. A brother is in an asylum and the child himself is illegitimate.
- (7) Mother a prostitute with three illegitimate children.
- (8) Father grossly alcoholic. His uncle and his grandfather died insane.
- (9) Mother and two brothers feeble minded.
- (10) Elder brother insane. Mother of low mental calibre. Uncle epileptic.

- (11) Mother's father is insane. Cousin of father's died insane.
- (12) Grandparents first cousins. Sister of mother imbecile. Tuberculosis on father's side of family. Brothers and sisters prosecuted for theft.

In this group are 147 children.

Of these 85 showed no associated special defect. 40 had physical defects as noted below :-

Paresis	12
Epilepsy	18
Semi-mute or mute .	4
Deaf or partially deaf ..	4
Blind	2

Of the blind children, one suffered from congenital syphilis and one was epileptic.

Special types :-

Mecrocephalic	9
Hydrocephalic	4
Mongols	11.

ENVIRONMENT BAD - HEREDITY GOOD OR NOT KNOWN.

(d) In this group the children were living in bad surroundings, but no abnormal mental history could be obtained. There are 54 such cases. Associated special defect was not present in 30 cases.

20 had the following defects :-

Paresis	3
Epilepsy	11
Semi-mute or mute ..	2
Deaf	4

Special types :-

Hydrocephalic	1
Mongol	3

Most of the children in all groups who suffered from associated physical defects had multiple defects, e.g., paralysis and epilepsy occurred in four cases. A blind child was also epileptic.

The relatively large proportion of Mongols and Cretins in Groups (a) and (c) is noteworthy. These types are found to occur in otherwise normal families, sometimes as the last child of a long family, sometimes

at an early pregnancy, and they are as frequent as in families with a bad neuropathic history.

Among the mongols in this section are five children who were born a considerable period after the rest of the family. In one case the gap is 15 years.

One mongol is the son of a woman who married at 40, and in the next three years had three children, the last being the child in question.

Another is the son of a woman who, at 35 years of age, had already had 12 children, of whom one was epileptic.

Still another is the only child of congenitally blind parents.

Four imbeciles were the result of incestuous unions between father and daughter and one between mother and son.

Mongols, with details of family and position in family are given below :-

- (a) (1) Twentyfirst of 24 including 10 miscarriages. Congenital syphilitic.
- (2) Seventeenth of 20; last one still born. Four survived.
- (3) Eighteenth child and only survivor. Others died in infancy or were still born.

- (4) Sixteenth child. Eleven still births.
- (5) Fifteenth child. Father epileptic. Mother alcoholic and feeble minded. Two miscarriages. Six died in "fits". An uncle (on father's side) was insane.
- (6) Fourteenth child. Four still births. Two miscarriages. Mother's brother in asylum, epileptic.
- (7) Thirteenth child. Seven died in infancy. One miscarriage. Alcoholic parents.
- (8) Twelfth of sixteen. Last three pregnancies terminated as miscarriages.
- (9) Eleventh child. Father has heart disease. Mother is tubercular and feeble minded.
- (10) Tenth child, followed by a still birth and 3 who died in infancy of "fits."

G R O U P 1.

IDIOTS - IMBECILES

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LOW GRADE FEEBLE MINDED CHILDREN.

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Sub. Group 111.

LOW GRADE FEEBLE MINDED CHILDREN.

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LOW GRADE FEEBLE MINDED CHILDREN.

(a) Environment good - Heredity good.
34

(b) Environment good - Heredity bad.
18

(c) Environment bad - Heredity bad.
70.

(d) Environment bad - Heredity good.
8

ENVIRONMENT GOOD - HEREDITY GOOD

(a) These 34 cases of low grade feeble minded children have no ascertainable history of mental disease or defect. It is, of course, well known that it is almost impossible to obtain a history of mental defect or disease at a formal examination, and it is only long experience of dealing with these cases that makes it possible to ascertain anything like the truth. When one is on friendly terms with teachers and welfare workers and the Inspectors of the Society for the Prevention of Cruelty to Children -

then much information can be collected. But, on the other hand, many of these low grade feeble minded children are either the only child of the family, or, the parents recognises that the child is abnormal, and send it to a small private school, outside the jurisdiction of the School Medical Service, in which it stays so long as they care to pay for its alleged education. Often these children become troublesome; the Principal of the school refuses to have the child any longer and then it comes under the survey of the School Medical Department.

There are many practical difficulties in the way of effective ascertainment of defective children, and, in Hull, as elsewhere no doubt, quite a number of these children in private schools escape examination and certification. For example, some years ago the desirability of medical inspection in private schools was discussed with their Principals. One, the Head of a kindergarten school, asked whether a boy of 18 who was in her school would be examined by a man or a woman! Unfortunately, the proposal to extend medical inspection to these schools did not materialise, and cases such as the above occur only too frequently.

Therefore, the fact that no history is obtainable does not mean that there is no history. Months, even years after a low grade feeble minded child has been certified and has passed into the care of the Local Control Authority, one gets information, accidentally, which throws much light on the subject.

ENVIRONMENT GOOD - HEREDITY BAD.

(b) There are 18 such cases among those investigated.

The histories vary to a considerable degree. Some show gross mental defect; in others, remote epilepsy or unsubstantiated histories point to an abnormal nervous heredity.

Several are illegitimate children born during, or just after the War of 1914-1918 and, in one such case, the note is "Unstable Mother."

It is known, of course, that many illegitimate children were born during the War years, but not all these children are even slightly defective.

In each case, there is no indication of the mentality of the father.

Kingston-upon-Hull suffered badly from air raids, and one hears frequently the opinion expressed by the parent that this time of stress and strain is responsible for most of the ailments to which childhood is liable.

Especially is this the case with the mentally defective child. "There were air raids all the time I was carrying" or "I had a bad fright when carrying" are two very common statements.

If asked why she should be more upset than other people during air raids, the Mother usually says, rather proudly, that "her nerves are bad." This statement may be all one gets in the way of history, but surely if maternal impressions have such a large influence as some consider, then many more children, legitimate as well as illegitimate, born during the War years would be mentally afflicted. The War years were years of terrible strain to all women and not only to those who ultimately gave birth to abnormal children.

Examples of cases which came into this category of good environment with bad heredity are :-

(1) A girl living in a good home who was brought by an apparently intelligent mother. She assured me that there was no mental defect in the family, but some months later, when examining an imbecile girl, I was told that a cousin was also imbecile. After careful enquiry and searching of my records of this girl, I found that the fathers were brothers. The second mother also told me that beyond the fact that each brother had an imbecile child they knew of no neuropathic history. One of the fathers is a policeman and the other is in business and fairly well-to-do.

(2) Also a girl, brought by her Step-mother, who professed to know nothing of the girl's history. I learned afterwards that her mother and her maternal grandmother had both died insane and that uncles and cousins were feeble minded and/or epileptic.

ENVIRONMENT BAD - HEREDITY BAD.

(c) There are 70 such cases and they are being added to daily. From this stratum comes the bulk of the ineducable mentally defective children - often several members in one family being afflicted.

Histories such as the following are,
fortunately not common, but they crop up fairly
frequently :-

(1) The Mason Family.

The family lived in Hull for some years
and three of the children, George, Fred and Doris,
were examined and certified. Fred attended the
special school for a short period, but is now at
Stoke Park Colony. The family history was investi-
gated and the details are given below :-

Father - Frederick William Mason. Born 12th May, 1880.

Mother - Gertrude Mason. Born 12th August 1883.

Daughter - Esther. Lived 1 day. Died of Convulsion
Fits. } These
} were
} illegiti-
Son - Ernest. Lived 3 months. Died of Fits. } mate.

Daughter - Annie. Certified Mentally Defective.
At Tilworth Grange.

Son - George. Certified as Imbecile and died
at 11 years of age.

Son - Fred. Certified as Mentally Defective and
now at Stoke Park.

Daughter - Doris. Certified as Imbecile.

Daughter - Florence. Died at 11 months. Whooping Cough.

Son - Reginald. Certified as Imbecile.

Daughter - Olive. In service.

Son - Wilfred. Died at 6 months.

Daughter - Evelyn. At school but said to be mentally defective.

Son - Stanley. At School and said to be "allright".

Daughter - Gladys. 9 years. Never been to school. Mentally defective.

Daughter - Lily. 8 years. Never been to school. Mentally defective.

Son - Sidney. 5 years. Never been to school. Appears mentally defective.

Daughter - Madge. Four years.

Daughter - Doreen. One year.

Paternal Grandfather said to have been feeble-minded.

Two Great Uncles insane.

Maternal Uncle epileptic.

Since 1929 they have lived out of Hull and no recent news has been received of them.

The Lever Family.

Mr. Lever was a cripple. ? epileptic. He had three daughters - Hannah, Emma and Ruth.

Hannah Lever married Joseph Allsop - a degenerate type and cripple. There have been at least seven children, of whom three are dead. One girl is feeble-minded and attended the Malton Street Special School: another girl has been reported to the Local Control Authority, and a boy is probably feeble-minded.

Emma Lever attended the Malton Street Special School and married Ernest Ness, who also attended the Malton Street Special School. Five children living and two died quite young. One boy attends the Malton Street Special School.

Ruth Lever married Joseph Cousins. She had an illegitimate daughter, who attended the Malton Street Special School, and was notified to the Local Control Authority on leaving.

There are various families related to the above and all show marked mental defect. Six children, who are cousins or second cousins of this family, are or have been in our Special School.

The various branches of this - the Lever - family represent, I think, our lowest types.

Hannah, the eldest, is feeble minded. She married Joseph Allsop, an utterly degenerate man with a foul mind and fouler tongue. He ill-treats his wife and accuses every man who comes near the house of having immoral relations with her. School nurses and school attendance officers alike, refuse to go near the house, and he has served at least one sentence for assaulting a relieving officer and other officials.

Their eldest girl attended our special school, left at 16 years with a low intelligence quotient and was certified to the Local Control Authority for immediate admission to an institution. This has not been secured and she lives at home receiving 7/6d. a week parish relief.

The second child - a boy, is a border line defect and attends a craft class.

The third living child is an imbecile, and the fourth, not yet of school age, is reported probably mentally defective.

Emma Lever, the second daughter, was one of the first admissions to our special school, and she married Ernest Ness, who also attended the special school, though only for a short period.

Ness is blind and has been in the asylum several times. Their eldest boy attends our special school but he is shortly to be discharged as ineducable.

Ruth - the youngest sister, married Joseph Cousins, but she had an illegitimate girl who also attended our special school. A legitimate daughter is also a low grade feeble-minded girl.

Related to this family are three girls -

one a low grade feeble-minded girl, now in an institution, one an imbecile and one now at the special school for mentally defectives.

Also related is a family which has contributed two children to the special school. Another cousin of the Mother's attended Malton Street and is now in an institution for low grade feeble-minded persons.

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Another family came into Hull from London for a short period, and one of its members came up for examination. Here much family history was obtained by the Inspectors of the National Society for the Prevention of Cruelty to Children, working in conjunction with its London Headquarters.

The Grandmother was well known as the keeper of a disorderly house. She had four daughters who were prostitutes. One of these was the mother of the child examined, and it transpired that the child was one of four illegitimate children, all to different fathers.

The aunts also had illegitimate children, numbering seven at that time.

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Another family had a feeble minded boy and a feeble minded girl and two imbecile boys. Both parents are noted as of "low mentality." An uncle was definitely feeble minded and two cousins are in the Royal Albert Institution.

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Still another family has already had three children in the special school. In this case, the mother is feeble-minded and the grandfather is said to have religious mania.

A similar type of family is reported in LANCET for October 29th 1932 (Page 984) - It is headed "A gruesome Family."

A boy at Clerkenwell Police Court was found to be of noticeably low mentality, and the magistrate instituted enquiries into the family history.

The boy's father was unable to state how many children he had, made calculations on his fingers and arrived at a total which proved to be wrong. The following information was elicited finally :-

The father, age 62, was living with the mother and eleven of his children in two rooms. Certain of the children were adult and six adults and four children were sleeping in one room.

The father's family was made up as follows :-

- (1) Daughter (32) attended mental deficiency school, married with children, one of whom is at a Mentally Defective School.
- (2) Daughter (31) married. One child at M.D. School.
- (3) Daughter (30) Married.
- (4) Son (28). Attended M.D. School. Married and wife deserted him. 3 Children - two stammerers and one with very bow legs.
- (5) Daughter (26). Attended M.D. school. Married.
- (6) Daughter (24). Attended M.D. school.
- (7 & 8) Twin boys, died in infancy.
- (9) Son (22). Attended M.D. school. On Dole.
- (10) Boy - died of scarlet fever in infancy.
- (11) Son (18) - the prisoner. He attended M.D. School and left "able to read two-syllable words with difficulty." Said to be "lazy and self-willed and subject to occasional outbursts of temper." Was constantly truanting. Prison Doctor certified him feeble minded.
- (12) Boy - died at 5 days - haemorrhage.
- (13) Boy (16), out of work. Exhausted his dole.
- (14) Daughter (13). Diphtheria carrier and in hospital.

The mother stated that, so far, she had 19 grand-children. Families such as these are surely "liabilities" rather than "assets" to the nation.

ENVIRONMENT BAD - HEREDITY GOOD.

(d) Only eight cases can be classified thus.
This is more because no bad heredity can be
ascertained than because it is an undisputed fact.

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Special defects from which the Low grade
feeble-minded children suffered.

Epilepsy heads the list with 10 cases.

In six cases there is no family history
to associate with the defect.

Of the remaining four :-

- (1) Father was epileptic.
- (2) Grandfather and uncle were epileptic, but
the type of attack is not known.
- (3) Mental defect in family and also syphilis.
Child is herself syphilitic. A brother
has diabetes insipidus.
- (4) Had an imbecile brother. Two cousins and
an uncle are feeble minded.

There are no examples of brothers and sisters
being epileptic, and this is borne out by other observers.
Epilepsy seems to be an individual defect, not necessarily
one affecting the whole stock.

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Paresis - Under this heading are included Hemiplegia, Diplegia and Ataxia. Three cases were paralysed in both legs and also epileptic.

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Deafness and defect of speech - These are noted as single defects in eight of the 14 examples. The others were semi-deaf with defective speech, or semi-mute with defective hearing. One child was also epileptic.

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Three children were hydrocephalic and have died since the investigation was made. They were all severely mentally defective.

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GROUP 11.

EDUCABLE FEEBLE-MINDED CHILDREN.

EDUCABLE FEEBLE MINDED CHILDREN.

Under this heading are included the 192 children now attending or awaiting admission to the special school.

The Mental Deficiency Act 1927, Sect. 1., defines feeble minded children as "persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or the protection of others, or, in the case of children, that they appear permanently incapable, by reason of such defectiveness, of receiving proper benefit from instruction in ordinary schools."

The Education Act of 1921, Part V. Sect. 55, defines mentally defective children as "those who not being imbeciles and not merely dull or backward are, by reason of mental defect, incapable of receiving proper benefit from instruction in the ordinary schools, but are not incapable, by reason of that defect, of receiving benefit from instruction in special classes or schools."

As Tredgold points out (Mental Deficiency, P. 165) although both these definitions refer to a grade of defect less pronounced than that of imbecility, they are not identical. The criterion laid down by the Mental Deficiency Act is not only one of ineducability, but this defect must be permanent, and it must be by reason of "such defectioness," that is, presumably, as it appears in feeble-minded persons.

The defect of such "persons" is of a kind to necessitate care, supervision and control; in other words, it is a social defect, hence it would appear that to be certified as a feeble-minded child there must be not only educational defect but also social defect.

There is no doubt that the vast majority of children who are certified as feeble-minded and sent to special schools are, upon leaving those schools, certifiable as feeble-minded.

It is clear, however, that the wording of the definition of the Education Act can also be interpreted as applying to another group of children. It would appear that any defect of mind which is such as to render a child incapable of receiving proper

benefit from the instruction in ordinary schools, provided such defect does not account to imbecility, would bring him within the terms of the definition.

All observers of experience realise that while an educationally defective child is often a socially defective one, the two are by no means always associated. One frequently has "difficult", "tiresome" children sent up for examination as mentally defective, only to find a degree of intelligence above that of the mentally defective child. These "problem" children constitute an interesting subject and their after careers would probably re-pay investigation. Too often they get into the hands of the police quite early in life, and one loses touch.

On the other hand one finds, not so often now-a-days as some years ago, children who are incapable of deriving benefit from ordinary education, who present no anti-social tendencies, and who, being good and quiet, are allowed to drift on and are not reported by the teacher. Some chance inspection, it may be a routine medical inspection, brings the child before an experienced examiner, and usually a somewhat severe degree of defect is found.

In any particular special school the type of child is largely dependent on the standard of its certifying Officers, but, judging by results, the majority of these children are socially, as well as educationally, defective. During the last 13 years only five or six children have been discharged and allowed to return to their ordinary school, because they showed marked signs of improvement and no anti-social traits.

It is the practice here to admit to the special school children whose intelligence quotient is relatively low, i.e., 50 - 55, if, and only if, their schooling has been much interrupted by illness or other cause, and if the report on Form 41 D., from the Head Teacher indicates that some improvement may be hoped for if special teaching, and especially manual teaching, is given by competent teachers. These children stay for a period that varies from six months to two years, as it were on probation. If, during that term, there is no general improvement, the child is then discharged as ineducable.

Another group of children is also admitted on trial; those, who during the years from 5 - 7

have had to be excluded from the ordinary school for such things as (a) uncleanly habits, (b) being dangerous to other children. This group is not large and is soon eliminated, since it is not usual to find evidence of the power to improve educationally, and the detrimental habits tend to persist.

A study of the schools from which educable mentally defective children come is interesting. There are schools where the Head Teachers are keenly interested in all forms of mental testing, and who regularly test their new admissions. From these schools relatively large numbers of defective children are reported annually; there are others who seldom, one might say never, report their abnormal children. This condition of affairs persists in some few cases in spite of circulars and special visits by the Medical Staff, and yet we know that it is folly to believe that these schools contain only clever children.

One such school has four departments with about 300 children in each, and no defective child has been reported for two years. This summer, however, the Head Teachers of the Infants and the

Senior Girls retired and already the new Head Teachers are reporting backward children, although none has, as yet, been certified. The Senior school has just been examined and several backward children have been referred for formal examination.

The special school in Hull is a small one with accommodation for only 130 pupils, and in the interest of economy no new school is being built and no old one adapted. It follows that there is a long waiting list and only too often a child remains in its ordinary school until it is legally exempt from attendance.

To remedy this anomalous state of affairs seven "Craft" classes have been formed, but these are not nearly enough and, in any event, are a poor substitute for real special school training.

The special school itself is too small and crowded to permit of manual training, on any scale, for the boys, or housewifery and similar training for the girls. All the teaching is given in the school - the children do not go to laundry or cookery centres or to wood-work etc., as do the ordinary school children, and yet in so many cases these children are only capable of working with their hands. Any

special school teacher or certifying Officer knows that sooner or later the educational limit is reached and then manual work is a necessity if the children are to be of any use to the community.

Other, happier, cities have many forms of training for their children. They have ground on which the children occupy themselves well at gardening; they have properly equipped work rooms and class rooms and they have sufficiently large buildings to accommodate all their educable defectives. This may be partly why some cities return a larger percentage of old scholars who are self-supporting than Hull is able to do. In nine cases out of ten these children get no training after they leave school - they go to work at blind alley occupations, instead of having at least one form of work in which they have had some training.

Another reason may be that a different or lower type of child is in the special school. In Hull, the Education Authorities decide which of the children who are certified shall be admitted first, and their almost invariable rule is that the lower grades go in first. That being so, the higher

grade, really educable child may never be given a place - he remains in his ordinary school until he is 14 and then leaves school and may come under no supervision. This does not happen often but it does happen, and may make all the difference to statistics.

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EDUCABLE FEEBLE MINDED CHILDREN.

I have records of 194 of these children, 143 of whom are on the special school roll and the remaining 51 awaiting admission.

Their intelligence quotients range from 70 down to 50.

They come from every possible variety of school and home, with the exception of the private school and the well-to-do home.

The sex distribution is almost equal. Hull differs from certain other cities in teaching boys and girls in the same school.

They are grouped in five classes. The first is composed of those children who are on trial - provided they are not very old.

The boys in the Senior Department are in groups of about 30 and their ages range from eight to sixteen years.

The same conditions obtain for the girls, and in their class rooms all forms of specialised work has to be undertaken. Some of the children do good work, even under such conditions.

Case Histories. These show a smaller number of physical defects than the low grade children. Only two children now attending have epileptic fits - one was discharged lately since the severity of the condition was increasing rapidly.

The number of paralysed children is also small and considering the relatively low type of some of the children special defect is not common.

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Family Histories.

Below is a list of near relations who are, or have been in Malton Street special school for Mentally Defective children :-

Related Families - Cousins.

Alfred Robinson - Notified Local Control Authority.

Emily Robinson - attending Malton Street.

Great aunt reported insane.

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Richard Wedgener (13 3/12ths). Now in Malton Street.

Hilda Hindley (14 11/12ths). Now in Malton Street.

Insanity - epilepsy and tubercle in family.

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Edith Moore (14 3/12ths). Now in Malton Street.

Ted Stevenson - discharged ineducable.

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Elsie Hargreaves (11 1/12th). Now in Malton Street.
2 Brothers and 1 Sister died of "convulsions."

Lena Marrow (14 9/12ths). Now in Malton Street.

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Charlotte Cardell. Notified to L.C.A. for guardianship.
Youngest of 12 (2 miscarriages and 9 died in
infancy from "fits").

Lily Woods. Now in Malton Street. Had fits in infancy.
Ernest Thirkettle. Now in Malton Street. Deaf.

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3 Gladstones - 1 boy, 2 girls. No details, but
described by Head Mistress as low type.

Stephen and Alice Allen - cousins of above but of
higher social standing.

Harold Shakesby (16) Nephew of above Gladstones and
Allens. Now in Malton Street. I.Q. = 62.

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Mollie Liggins. Left at 16. Now at Sutton Institution.

Muriel Leeman (9). Was in Malton Street; on account
of habits &c. is now in an institution in spite
of her age.

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Walter Bromhead. Now in Malton Street. His sister,
Rose, attended also. Notified L.C.A. for
Institution.

Gertrude Bromhead. Cousin of above; certified imbecile,
for Institution. Epilepsy. I.Q. = 31.

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Theresa & Margaret Bache - Cousins, and cousins to
Allsop-Lever Ness family.

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Farrow Family.

Eleanor Farrow. ? in service - ex Malton Street.
Fred Farrow Royal Albert Institution.
Harold Farrow Royal Albert Institution.
Edna Farrow Rickets. ? M.D.

4 brothers dead - (1 still born
 (2 "convulsions"
 (1 "wasting"

3 sisters dead - (1 still born
 (2 cause unknown

2 sisters - ? healthy.

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Sisters - (M. Lockham & Francis Lockham
 (A. Mitchell & H. Mitchell
 (Ruth & Catherine Dennis
 (Elizabeth & Rose Martin
 (Amelia & Rose Knappett.

Brothers - (Frank & Albert Croker
 (D. & J. Walker (Delinquents).

Brother & Sister - (T. & A. Garrod
 (E. & J. Ward
 (C. & F. Nixon

Twins - (Wallace & Richard Brown
 (Olive & Elsie Steele
 (Stanley & Walter Tennison.

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There were, at one time, four members of a family in attendance at once. Their family history is sordid and is briefly :- two mentally defective women, one man lodger, six illegitimate children.

The women are so defective that they do not know their own children. The eldest two are said to be brother and sister, but their birthdays are within five months of one another. The middle two are twins and are said to be the children of the younger mother. The remaining two are 12 years old - again with different birthdays, but they are both claimed by the elder woman.

The eldest girl was allowed to leave. The eldest boy is in an Institution for delinquent Mentally Defective boys to which he was committed for theft. The boy twin followed him, for the same offence, and now we have only the girl twin. She is a shy peaceful little thing - she has the stature of a child of ten though she is 14. The remaining two are in an ordinary school - usually near the bottom of the class, but not certifiable as feeble minded. They are definitely dull.

The father is dead and the women make nets for a livelihood. One hesitates to think of the future of these girls.

There is also in the special school a girl whose elder, illegitimate, brother preceded her, and whose younger sister is about to be admitted. There is one other child, a boy, just beginning school life, and according to his father, he is brilliant. Too much reliance cannot be placed on this statement, since the father is indignant that the girls are certified as feeble-minded children. The Mother is a poor type, mentally and physically, while the father - an ex-Barnado's Homes boy - is a capable painter and decorator when he likes, but that is seldom. They live on parish relief for months at a time.

One child comes of a family which has a strong history of tuberculosis. The father has not worked for years - there are numerous children and they also are tubercular.

There is one child who comes of socially superior stock, if one can believe the mother's story. She is herself an educated woman, but is hysterical to a pronounced degree. She states

that they were formerly very well-to-do, that her husband was a prominent merchant in the City - his name does not appear in commercial directories - and that he had an illness which cost them £200. a week, and that he lost £10,000 in a year. She also vowed that she would not send the child to the special school, but when the time came there was no trouble in securing admission. They are now exceedingly poor and live in rooms which they change very frequently. Almost the Mother's talk made one think of schizophrenia. I learnt something of the family later on, and, while no history of mental defect could be traced, there is a well marked history of instability and dullness.

The child is doing well in spite of the fact that, on admission, he did not even know his name. He was then seven years and ten months old.

Another family consists of three children, one of whom is in Malton Street.

The father has been in the Regular Army and took his discharge just after the War. He both speaks fluently and writes good letters.

The mother is considerably older than her husband - she could readily be mistaken for the child's Grandmother - and is of the fussy and rather inefficient type. She keeps the children clean and tidy in spite of the unemployment of the father.

The elder boy is dull - very dull indeed, and is making little headway in school. I put him into a "Craft" class, but the father objected, and the child returned to an ordinary school.

The second child is a girl who has never been reported as mentally deficient, but is certainly on the border line. She is a frail, anaemic, bronchitic child. Her father refused to consider the suggestion that she should attend the Open-air school.

The younger boy is definitely feeble minded. He also is a delicate child.

Two rather interesting children were caravan children, who had never attended any school regularly. Their mental testing was limited to performance tests, since neither of them could read or write. The elder one was almost of an age to be legally exempt from school attendance. At the suggestion that the children should attend special school, the parents promptly quitted the city and have not returned.

GROUP IV.

RETARDED CHILDREN.

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RETARDED CHILDREN.

The group composing the "retarded" children consists of those children who, about the age of nine to eleven, are found to be behind the normal educational average of their age to the extent of two years. The intelligence quotient of such children is roughly between 75 - 80.

Here, as in the former groups, there is no fixed dividing line between the retarded child and the high grade feeble-minded one. An intelligence quotient as low as 75 may, in many cases, does, mean feeble-mindedness, but there are other important factors to be considered.

The "retarded" child is retarded because of two main reason - either he is dull or he is backward.

These terms "dull" and "backward" are often spoken of as if they were identical, but that is not really the case. The children may agree in the amount of their educational retardation, but they differ considerably in regard to the cause of this, also in their response to treatment.

The "dull" child is retarded educationally owing to the operation of an intrinsic mental factor,

ile., innate mental incapacity, and in this they resemble the high grade feeble-minded children. No amount of special teaching and training will be able to bring these children up to normal attainments, and even if placed with a younger class they would gradually lose ground.

The "backward" child is retarded educationally owing to the operation of extrinsic factors, e.g., defective vision, defective hearing - very irregular attendance at school or very frequent change of school. It follows, therefore, that, theoretically, the removal of the cause should enable the child to regain the normal attainment.

The ascertained number of "retarded" children varies with the area and the standard of mental defect which the teachers recognise and think it necessary to report. Many teachers, especially the older ones, will say a child is slightly backward where examination proves it to be a high grade feeble-minded child. Such teachers regard imbecility as feeble-mindedness, and are shocked and horrified to be told that their "backward" child is a feeble-minded one. So much was this the state of affairs some years ago that a circular was issued to all schools asking for a return of all children over a certain age - nine years, who were still in Standard 1.

The response was surprising, and, whereas the school Medical Department had previously had all the responsibility of finding defective children, they were now found for us.

Now-a-days the children are promoted en bloc, year by year, and this means a further difficulty, in ascertainment. The schools that in the past failed to report their "retarded" children still fail to do so, and in many cases it is only the chance examination of the child say at a routine medical examination, that brings the facts to light.

Other schools, according to their despairing teachers, are full of nothing but backward children, and certainly in some cases the proportion is very large.

Dr. Cyril Burt in "The Distribution and Relation of Educational Abilities" London County Council Report No. 1868 - 1916, concluded that at least ten per cent of children come within the category of the "retarded."

In America, Dr. Goddard (Pedagogical Seminary) found in 1911 that about fifteen per cent were, among 2000 children examined, backward.

Tredgold - "Mental Deficiency" 5th Edition.

Page 177. estimates the number at between 10 - 12 per cent.

In Hull, the number estimated is about 10 per cent of a school population of 40,000. It is probably larger than this number, since, as stated previously, the difficulties in the way of correct ascertainment are almost insuperable.

The Intelligent Quotient of the "dull" child is always below normal, ranging usually between 70 and 85; the intelligence quotient of a backward child is above this level.

Shrubsall & Williams find that the "backward" child may have an Intelligence Quotient of "over one hundred, especially if alternative tests are used which do not involve so much verbal facility or depend on experiences obtained chiefly in schools."

The "dull" child and the "backward" child alike are essentially the type of child that requires education in a special school, but he cannot obtain it because he cannot be certified as mentally defective.

It is interesting to note that the joint Mental Deficiency Committee have recommended that certification as a mentally defective child should no longer be required for admission to a special school. It will also be interesting, should their recommendation come into force, to find how many children will go to the special school voluntarily. As the Law now stands, an order to attend can be obtained from a Magistrate if the child does not attend. The experience of the results of

recommending admission to "Craft" classes would appear to show that no parent will send a child to a special school or class unless he is either intelligent enough to recognise that it is for the child's ultimate good, or, unless legal steps are taken to secure attendance.

There are no legal powers to secure attendance at "Craft" classes and, therefore, if a parent objects to the child being admitted to such a class, the child is allowed to remain in his ordinary school. There, owing to the system of promotion by age and not by attainments which is now in vogue, the child drags along doing work which is far below the class average and slowly becoming more and more retarded.

In the case of many of the backward children an extra year in the same form would probably enable them to keep pace with that form, but, if the child is moved up before it has had time to grasp the necessary details, the result is disastrous.

There is a certain type of family that is continually removing from one end of the town to the other. The children, therefore, in four or five

years have attended six to ten different schools.

This is a factor in the production of backward children that is increasingly encountered.

Elementary school education is standardised to a certain extent, but, each teacher has his or her own methods of teaching, and these 'wandering' children have no time to accustom themselves to each new method.

DULL CHILDREN.

These form about two-thirds of the total number of retarded children. These children are often related to mentally defective families - maybe their own brothers and sisters. Their condition differs only in degree from that of the feeble-minded - it is the same in kind. They constitute the "border-line" defective and often it is a matter of difficulty to determine their grade. These are the children who are referred for further examination and who may, in the meantime, be sent to special classes in the ordinary schools.

It frequently happens that after leaving school, or just before, while passing through the adolescent stage, they show a mental instability that makes it necessary for them to have a certain amount of care and supervision. Their "dullness" is the result of a general all round mental inferiority. Other forms of dullness are due, not to an intellectual deficiency which is general, but one which concerns certain intellectual factors only. The best examples are word-blindness and word-deafness.

Word-blindness was first described by Kussmaul in 1877 and has been described since by Dr. Huishelwood ("Letter, Word & Mind Blindness, London, 1900, and "Congenital Word Blindness" London, 1917).

Dr. C. J. Thomas has also described it in "The Aphasias of Childhood & Educational Hygiene" 1908, and more recently Dr. J. C. Wallin in the Lancet in 1921, and Miss Lucy Fildes in "Brain" Vols. XLIV: Part III.

The child can see perfectly well but the printed or written symbols have no meaning for him. He may be able to repeat strings of sentences or tables etc., which he has memorised by hearing them read, but he cannot read by sight, and in severe cases cannot name the letters of the alphabet.

Wallin states that the condition is always accompanied by some degree of agraphia; in severe cases the child cannot even form the letters but makes meaningless strokes. In some cases the disability concerns figures and not words, and then the difficulty is to teach them arithmetic rather than reading.

A small proportion of such children are up to the average in regard to intelligence, and another small proportion is feeble-minded.

According to Wallin this type of defect is more common in boys than in girls in the proportion of 4 to 1.

The condition is rare - I have only seen one genuine case. My only case was a girl. She came under observation through a casual remark of her teacher that, though she seemed normal in other ways, she could not read. She could copy but the matter copied was unintelligible to her. She sewed beautifully - was very good at all forms of art work and could just hold her own with arithmetic. She was then 13 11/12ths., so I had only one opportunity of seeing her. Her memory was good and well stocked with material, but she could read nothing.

It is interesting to note that in a Harvard Monograph in Education Series 1. Vol. 11. No.1. 1927., the suggestion is made that there may be a relation between this defect and lefthandedness and mirror writing.

Word-deafness is an analogous condition.

The child who is word deaf can usually be shewn to be able to hear only a limited number of notes in the voice. Since words convey no meaning to such a child he appears to be, and consequently is, regarded as deaf. The only treatment is to teach the child to lip-read.

There are two such cases at the moment in our special school for deaf children. They are reported to be difficult to teach, but to have a much wider general knowledge of life than the ordinary deaf child, and to be good at manual work.

In addition to these specific abnormalities, there are a considerable number of children who suffer from imperfect development in a group of mental factors which is essential for scholastic learning and so come within the category of "dull" children. The children are not devoid of common sense or social adaptability. They are usually physically fit, good at athletics or gymnastics and quite able to manage their own affairs in an intellectual walk of life.

Tredgold (Mental Deficiency - 5th Edition, Page 180) states that he is "inclined to think that this condition occurs chiefly in certain stocks, the members of which have for generations worked with their hands rather than their heads; in consequence of this, there is delayed evolution of the mental processes concerned in scholastic educability."

BACKWARD CHILDREN.

"Backwardness" is due to extrinsic causes. When, and if these causes are removed the child makes up the arrears in its education, sometimes completely, sometimes less completely. Causes which are environmental are such as bad home conditions - harshness or lack of understanding on the part of the first teachers the child meets on entering school.

In this connection, I recall one small boy of 8 sent up with a very bad report as to his abilities. He arrived terrified at the prospect of examination, in tears and clinging to his mother. I gave him bricks to play with and talked quietly to the mother. Gradually he quietened and suddenly asked for another set of bricks. Seeing he had built the first set properly, I gave him the second, at the same time praising his efforts. A watery smile was the result.

I learned from his mother that he had gone to school at 5 years and attended happily and willingly for 2 months. Then in rapid succession came measles, whooping cough and scarlet fever. He was absent in all over 6 months and had just attended

about a month again when acute mastoid disease developed, followed by operation and a long stay in hospital. In that school, children of 6 are sent into the Junior Department without regard to their abilities or medical history. Consequently, after about 3 months teaching this child - delicate and debilitated after his many illnesses was expected to cope with junior school work!

I tested him using the Stanford Revision tests and the Portious Wage tests. His intelligence quotient was 92. We then went on to simple arithmetical problems, e.g., addition of tens and hundreds, which he was reported to be unable to do. By this time he was happy and enjoying himself and the sums were done, slowly it is true, but correctly. To my questioning as to why he could not do them in school there came "How can I when she's always caning me!" And indeed how could he? He was transferred to a larger school in which the junior and infant departments are under one head - a woman with a wider understanding of child nature than his previous head. I told her the circumstances and she promised co-operation with the

child and the parent. The result is a boy who loves school work and is now in the boys department a little below his fellows but not noticeably so.

Another very potent cause of backwardness is as previously stated, very frequent change of school. There is a certain type of family that is continually removing from one part of the town to another - usually they are unsatisfactory tenants or in these days of housing shortage they have to live in rooms. Daily one hears teachers say that they have just admitted a child, age ten or more, who "can do nothing" and its school record is usually one of quick changes.

Physical causes include defects of hearing, sight and speech, enlarged tonsils - malnutrition due to lack of sleep and of proper food, diseases such as tuberculosis and heart disease and certain nervous diseases including epilepsy and chorea. A somewhat infrequent cause is a true neurasthenia. One such case here was kept away from school by a fond mother, was never taken out and never allowed to play with other children. At 13 $\frac{1}{2}$ she was a hysterical neurasthenic wreck.

GROUP IV.

'RETARDED' CHILDREN

GIRLS.

RETARDED GIRLS.

I propose to deal with 171 cases of this grade.

Environment Good - Heredity Good

40

Environment Bad - Heredity good as far as known.

49

Environment bad - Heredity bad.

70

Environment good - Heredity bad.

12

GROUP 1.

In this case the girls come from good homes with no ascertainable neuropathic inheritance.

Two rather interesting cases - very interesting indeed to myself as their examiner - were the children of (a) a travelling tinker and (b) a bargee. They accompanied their parents everywhere and had spent very little time in school. Their intelligence quotients were respectively 73 and 84. The one with the low intelligence quotient would appear to be feeble minded;

but, the girl's whole attitude, her intelligence when describing the various fairs they visited - her knowledge of local geography and her entirely sensible outlook on life forbade such a conclusion.

She has since been lost sight of so that it is not possible to give her after career.

In one case the backward child came from a home in which there was extreme poverty but a quite intelligent mother. The father was dead. Still another had a bedridden father. This child, a cripple, was a twin and she was born after her father's illness had been in progress for some time. He had pulmonary tubercle and severe heart disease.

GROUP 11.

ENVIRONMENT BAD - HEREDITY GOOD AS FAR AS KNOWN.

Two children in this group were twins, and had identical Intelligence Quotients. These were low but as it did not seem that the children had done themselves justice they were referred for another examination in 6 months. This had not yet taken place.

In several cases long illness is the only discoverable cause of backwardness and one girl has severe valvular disease of the heart.

Physical defect is noted in 4 cases - in each the after effects of anterior poliomyelitis. One child is a resident in our special school for physically defective children. She is exceedingly mischievous and tiresome and very difficult to control. Her Intelligence Quotient is now 78 and she is only 8 years old. It will probably fall as she grows older and the problem of education in the special school for mentally defective children is impossible of solution owing to her severe physical defect.

One child is epileptic - of the Petit Mal type and also has a curious religious obsession. She lives with elderly grandparents and alarms them by her queer reactions to ordinary affairs. She reads her Bible incessantly and has even taken it to school to read instead of her lesson. Yet with it all she has amazingly little knowledge of the Bible when questioned during scripture lessons.

the guardians had a father who is reported 'nasty' ;
a mother who was imprisoned for child neglect and an
epileptic brother in an asylum.

(2) Mother is insane - manic depressive type,
and a sister is imbecile and in an institution - three
other children are "dull."

(3) Half brother and half sister certified
feeble-minded children. Has two sisters of her own -
one retarded and the other a scholarship winner. Her
mother is the second wife and seems of good stock.
Father is a moderately prosperous butcher. Of his first
wife no reliable information was obtained.

(4) Sister imbecile - brother tubercular.
Parents excessively alcoholic.

(5) Family of 17. 7 died in infancy - there
were 2 miscarriages. This child is the 15th.

(6) Another is the 19th child. Her mother has
lived all her life within a quarter of a mile of a certain
school and professed not to know where it was. Whole
family "dull."

(7) Father a skilled electrician. Mother feeble-
minded. The husband recognises this fact and deplores
the marriage. He is, however, reported to be a good father
and husband.

(8) Illegitimate child of a woman who is a

professional beggar.

(9) The only child of the second marriage of each parent. Mother and Father both have families that are self-supporting. Mother was 44 when this child was born.

(10) One child has a high myopia and is now in a sight saving class. Her brother is "dull."
Elderly parents.

(12) One of three illegitimate children.

(13) One of two illegitimate children. Mother is feeble-minded as also is her sister. The children are stunted, rhacitic and syphilitic.

(14) Brother certified feeble-minded, sister "dull." She has had 3 aunts and two uncles in the school for the mentally defective.

(15) Mother in asylum. Father been imprisoned for theft.

(16) Two sisters feeble-minded, one brother dull, another just started school probably feeble-minded. A syphilitic family. They are said to have gipsy blood. One sister is nearly blind at 12 years of age from syphilitic keratitis. She is at a "Craft" class.

(17) This child belongs to a family in which the Inspector of the National Society for the Prevention of Cruelty to Children found that 9 people were sleeping

in one room.

(18) Sister and brother feeble-minded, 2 brothers - one the feeble-minded boy - committed to institutions for stealing. Father tubercular and has not worked for years. This girl is beyond parental control.

(19) Sister low grade feeble-minded person. Brother diabetic - Mother ? diabetic also - invalid.

(20) Parents separated and each has an illegitimate family. Girl is with her mother.

(21) Twins. Both dull. Born after seven miscarriages.

(22) Hydrocephalic to a moderate degree - history of epilepsy in other members of the family. A sister is dull and in a special class.

(23) Brother and sister "dull" and in special classes.

(24) Suffers from Congenital syphilis - Mother a 'bad character.'

(25) Father suffers from shell shock and is a cripple - has to be wheeled about in a bath chair. Child born after his illness began. She had very marked scoliosis and is very stunted.

(26) "Neurotic" Mother. Large family.

(27) An illegitimate child, who suffers from congenital syphilis.

(28) Mother been married 3 times. This child and a younger sister both dull - sister not yet formally examined, as she is not yet seven years old.

(29) Prostitute Mother - 2 sisters "dull" when at school.

(30) Father "nervous debility." Mother feeble-minded.

(31) Father, now dead, was imprisoned for child neglect. Mother is feeble-minded and so is her half sister.

(32) An illegitimate child. Mother married and had eight other children. Only three of the 9 survive. This child stammers very badly.

(33) Sister is feeble-minded.

(34) Brother certified feeble-minded person.

Five miscarriages.

(35) Mother feeble-minded. Sister feeble-minded.

Rest of whole family "dull."

(36) Mother Feeble-minded. Baby sister feeble-minded.

(37) Mother insane. Father imprisoned for theft.

(38) Neurasthenic mother.

(39) Mother "facile" type - a bad character.

(40) Two feeble-minded sisters. Always badly neglected and frequently at the Minor Ailment Clinic for impetigo and other "dirt" diseases.

GROUP 1V.

ENVIRONMENT GOOD - HEREDITY BAD.

Twelve girls come under this heading.

Typical cases are the following :-

- (1) The Mother is insane.
- (2) Imbecile cousin.
- (3) Feeble-minded brother.

(4) Father suffers from shell shock. To a certain degree this argues a neuropathic history. He is also a cripple.

Just 120 of these girls are in "Craft" classes, where an attempt is made to give them special teaching and enable them to overcome their educational defects.

The results are not encouraging. Some of the girls learn to read easy books, but few progress beyond the level of a nine or ten year average child. With arithmetic, the results are similar, and if a girl can be taught to do easy money problems the teacher feels she has accomplished much.

On the other hand, they vary enormously in their ability to do hand work. One class has a teacher who specialises in this type of work, and they produce really good work. This is in addition to learning ordinary sewing and knitting.

These children take a real pride in their work, keep it clean and tidy and, whatever their educational defects, should at least be able to mend and make clothes.

Hand work and their ability to produce good results seems to depend largely on the teacher. The other "Craft" classes for girls turn out very inferior work, and the girls have no pride in their personal tidyness as evidenced by carefully mended clothes and stockings.

The idea at the back of the "Craft" classes is that a dull child can usually use its hands better than its head. This may be so, but, unless the hand work is also head work, it has no educational value. Too many parents complain that at the Craft classes the child just "cuts up paper," "plays with tools" etc. They recognise that the child is making little or no progress in educational work and prefer to remove the child back to its ordinary school. We have no legal power to prevent this, and what little chance of improving the child has is irretrievably lost. This has never happened in the school I mentioned above, where sensible hand work goes hand in hand with a real effort to improve the educational standard of each child.

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GROUP IV.

RETARDED CHILDREN.

BOYS.

RETARDED BOYS.

There are available records of 225 boys who have been examined within the last year or two, some of them more than once.

The distribution is as follows :-

Environment good - Heredity good as far as known.

70.

Environment good - Heredity bad.

30.

Environment bad - Heredity bad.

62.

Environment bad - Heredity good or not known.

63.

GROUP 1.

ENVIRONMENT GOOD - HEREDITY BAD.

There are 30 boys who come under this heading.

The case histories vary very much, e.g.

(1) All children in family are "dull."

(2) Illegitimate child. Mother lived with Father for ten years and had two illegitimate children. His wife was insane and he is reported to be a man of violent temper. Mother is now married to another man and home is good.

(3) Brother dull.

(4) Imbecile sister.

(5) Is the nephew of a feeble-minded woman, who attended the special school for mentally defective children.

(6) Brother, age five, cannot yet speak. Mother dull and neurotic.

(7) Boy born after several miscarriages. He has congenital cataract.

(8) A curious case. The boy is the only son. His Mother keeps him out of school on various pretexts - "internal hydrocephalus" being one of his certificates. He has been examined by all the School Medical Staff and by the specialists employed by the School Medical

Department, and we all agree that the boy has nothing whatever the matter with him. Still his Mother obtains certificates from a Club Doctor and he stays out of school. His father's parents were both deaf mutes. He is now nearly exempt from attendance and school, and his total attendance is less than three months.

(9) Mother is in an asylum. Child has large corneal opacities due to ulceration.

(10) Intelligent father. Mother feeble-minded. A brother dull also.

(11) This boy has been adopted by a childless aunt and uncle. His Mother is dead. His brother is imbecile and his sister very delicate and definitely dull.

(12) Grandfather died insane. Dull Father and dull brother. Boy is border-line case.

(13) Has a feeble-minded brother.

(14) Father had a "nervous-breakdown" which lasted for seven years, during which time he was in the Mental Ward of a Poor Law Hospital.

(15) Imbecile sister. Syphilitic.

(16) Father is in an asylum.

(17) Mother has had two "nervous-breakdowns."

(18) Two dull brothers. Also rather deaf.

(19) Ninth of 14. Easygoing "simple" Mother.

Twelve people live in three rooms in this family. All the

children are sub-normal in intelligence and physique.

(20) Twins. Father reported "abnormal." Deserted family some years ago. Has served a sentence for embezzlement.

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GROUP 111.

ENVIRONMENT BAD - HEREDITY BAD.

There are 62 such cases, and they come almost entirely from the slum areas of the City. Some cases histories are as follows :-

(1) Brother in "Craft" Class.

(2) Two sisters feeble-minded.

(3) A feeble-minded sister. A feeble-minded Mother.

An imbecile sister and a degenerate father.

(4) Mother and sister deaf and dumb. Three others are "hard of hearing." One is feeble-minded.

(5) Father below normal mentally. Mother also "not intelligent."

(6) Half-sister is low grade feeble-minded girl.

She and three brothers and a sister were in Barnado's Homes for some years ; then the Mother re-married and took girl home. This boy is probably illegitimate, since the Mother appears to have taken to prostitution after the death of her second husband.

(7) Mother is a deaf mute. The Father is an invalid and they live on parish relief.

(8) Father died insane.

(9) Sister low grade feeble-minded girl.

(10) Mother, dead of tubercle, was feeble-minded.

The father's brother died insane. The boy's sister is feeble-minded.

(11) Came of a dull family. He lived in a 4-roomed house, which 3 families shared. Seven adults and six children slept in 3 rooms.

(12) Feeble-minded Mother. Grossly alcoholic Grandmother. Boy is illegitimate.

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GROUP 1V.

ENVIRONMENT BAD - HEREDITY GOOD OR NOT KNOWN.

(1) gives a history of being the 14th child. His parents separated when he was three, but I have no information as to the reason for this.

(2) Parents are noted as illiterate, but not unintelligent.

(3) A boy who is allowed to run wild. His mother is a widow and the boy does exactly as he pleases.

This is the type of case in which it is difficult to ascertain reliable information. Many of the homes are in slum areas, and it seems almost inconceivable that these 63 out of 225 cases should have no neuropathic history. Yet such is the case in spite of careful investigation. There are all the signs of poverty and shiftlessness that are associated with homes in which the parents are incapable of being good home makers, but that is all.

Poverty, lack of food, sleep and air - late nights and consequent ill-health, must account for much retardation among this type of child.

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The education of the dull boy in "Craft" classes is even more unsatisfactory than that of the dull girl. They have one class room only, and in it they try to do manual work as well as ordinary educational work. As this necessitates the carrying on of the two forms of work at once, by the same master, the results tend to be distinctly bad. Girls can all sew at the same time, but 20 boys cannot work at the same small bench at once. I have recently given the yearly formal examination in these classes and have been struck by the difference in the attainments of boys and girls. The boys show a distinctly slower rate of progress than the girls, and this applies to their hand work also.

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AFTER - CARE CASES.

BOYS & GIRLS.

240.

AFTER CARE CASES.

I have records of 240 such cases. Of these 135 are girls and 105 are boys.

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Taking the boys first.

They have all been in the special school for mentally defective children, and have been discharged either at 16 years or earlier if work has been found for them, or have been discharged as ineducable.

Of the total of 105, 51 have known neuropathic family histories and 54 have no such history.

Typical cases of bad Family history are the following :-

(1) Grandfather insane. Sister imbecile.

(2) Sister and cousin are low grade feeble-minded women.

(3) Two brothers, who have an imbecile brother and a feeble-minded mother. The younger of these boys is employed and paid three shillings a week.

(4) Brother, and now this boy, in an Institution for delinquent feeble-minded boys. They had a tubercular father, were shockingly neglected, and were entirely out of control of their parents. This boy was absolutely

determined to get away from home and into the Institution in which he knew his brother was happy, and he persisted in various petty thefts and other delinquencies until he attained his object.

(5) Two brothers who have a feeble-minded, deaf and dumb cousin.

(6) Epileptic Mother, imbecile sister.

(7) Mother feeble-minded. Insanity in her family.

(8) Illegitimate child of a girl of 15. There is reported to be insanity in the putative father's family. Her sister also has illegitimate children.

(9) Is illegitimate. Parents are elderly. Insanity in the family.

(10) Brother imbecile. Sister feeble-minded. Mother died insane. Father is epileptic.

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Among the 54 cases in which no definitely abnormal nervous history could be obtained are :-

(a) Twin boys who were achondroplastic. They were members of a large family, all dwarfed. The father and mother were both less than five feet high. The other children were bright and are now wage earners. The twins were high grade defectives and now have work

in a box-making factory and earn nine shillings a week.

(b) A boy who was in the care of the Poor Law Authorities, having been deserted by his Parents. He was a case of hypopituitarism. In school he was a quiet and willing lad, but the Guardians reported him almost unmanageable. He is now at work on a farm.

(c) Another very sad case is a boy who is a twin. The twin is brilliant - this boy is uneducable.

(d) Two boys had severe crippling defects as a result of anterior poliomyelitis in one case and hemiplegia in the other. Both were discharged as uneducable.

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AFTER - CARE

GIRLS.

Of the 135 girls, 50 have a definite family history of mental defect or disease.

These are some of the cases :-

(1) 18th and only survivor - both parents feeble-minded.

(2) Aunt and maternal Grandmother died insane.

(3) Mother feeble-minded. Relations on both sides died insane.

(4) Feeble-minded Mother. The girl was discharged at fourteen as uneducable and recommended for immediate admission to an Institution. This was not secured, and when not quite fifteen she had an illegitimate child, which died after a few weeks.

(5) Brother and sister both feeble-minded.

(6) A crippled girl. Her parents were both of low mental calibre. There had been six still-births and a brother had died of tubercle of the spine. She was discharged as ineducable.

(7) A twin - born of elderly parents

(8) Epilepsy and tubercle in family. Brothers and sisters "dull."

(9) One brother epileptic, one tubercular. Five miscarriages.

(10) Sister is feeble-minded and brother is dull. Mother "facile" type.

(11) Brother is feeble-minded. The girl herself is in Stoke Park Colony as a consequence of various misdemeanours.

(12) Brother certified feeble-minded.

(13) Father alcoholic, sister feeble-minded and an aunt also feeble-minded.

(14) A sister imbecile, another feeble-minded. Whole family is tubercular.

(15) Father epileptic, Mother feeble-minded. Sister low grade feeble-minded girl who is semi-mute.

(16) Brother feeble-minded. An aunt insane and another feeble-minded.

(17) Insanity on Mother's side of the family. Epilepsy Mental defect and tubercle on Father's side.

(18) Father religious mania, sister feeble-minded. Mother is reported "queer." She never leaves the house.

(19) A brother and twin sisters are feeble-minded.

(20) Illegitimate girl. Feeble-minded mother.

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Among the children with no known neuropathic family history are :-

(1) A girl who came under notice when she was seven. Up to that time she had attended no school. She was undoubtedly feeble-minded and her vision was very defective. At eight years old she was certified blind and sent to a school for the blind out of Hull.

(2) Another child has a stone-deaf Mother.

(3) A girl who was excluded from the elementary school on account of her unclean habits. At seven years of age she was examined and certified for special school on trial. She could hardly speak. She made no improvement and had to be discharged as ineducable. Her brother is deaf and dumb.

(4) Another child is very deaf and naerly blind. There is probably a syphilitic element here, although no definite history has been obtained.

The table below is of interest with reference to the after career of the children who have attended the special school. It refers solely to persons born since 1910, and includes only those who were of high enough mental grade to attend the special school :-

	Boys.	Girls.	TOTAL.
(1) Numbers who have left.	116.	124.	240.
(2) Numbers who:-			
(a) have since died.	4.	1.	6.
(b) are known to be incapable by reason of mental defect of undertaking employment.	46.	45.	91.

	<u>Boys.</u>	<u>Girls.</u>	<u>Total.</u>
(c) are in an Institution	20	17	37
(3) Number who are employed in :-			
Industrial or manual occupations.	12	2	14
Agricultural or rural occupations.	3	-	3
Domestic occupations, including those who are helping in domestic work at home.	-	38	38
Blind alley or precarious occupations.	6	-	6
(4) Number who have left the neighbourhood or who cannot be traced.	9	7	16

EARNINGS.

Unpaid	1	31	32
Under 10/- per week	9	8	17
Between 10/- & £1. per week	5	1	6
Between £1. & £2. per week	2	-	2
Over £2. per week	-	-	-
Unknown	4	-	4

This is not a satisfactory state of affairs, but this is not surprising when one reflects on the position in the employment market for the physically and mentally fit. Even so the figures are a striking comment on the fact that the feeble minded person is

very seldom self supporting. Sooner or later they tend to become a burden on the community.

When trade is good or when extra out-put is necessary, as occurred during the War, then the feeble minded person can usually find work of an unskilled nature, but when trade is slack he is the first to be discharged.

Boys and girls who are allowed to leave school before the age of sixteen years if work has been found for them are almost invariably discharged when they reach the age of sixteen and come under the National Insurance Act. With increasing competition in the industrial world there is an ever increasing demand for efficiency.

It seems clear that unless some definite system is adopted to provide these defectives with suitable trade training, there will be little chance in the future of any considerable proportion of them finding remunerative employment. As things are, there is no doubt that the cost of their education in special schools is rendered largely nugatory owing to the absence of adequate provision for their proper trade training and subsequent supervision. The inevitable result of such lack

of training is that large numbers become chargeable to public funds.

PART II.

RESULTS OF "GROUP TESTS".

GROUP TEST RESULTS.

Summary of groups tested.

No. of children
tested.

	<u>Boys.</u>	<u>Girls.</u>	<u>Ages.</u>
Seniors	107	556	11 - 14
Juniors	362	262	9 - 11
Infants	230	155	5 - 8
TOTAL	699	973	

SENIOR SCHOOLS.

The two slum schools chosen - a girls' school and a boys' school gave results which show a striking resemblance. This, in spite of the fact that they are in different parts of the city with only their poverty in common.

The distribution of intelligence quotients for the girls is as follows :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
11	39	61	46	28	22	9	5

The figures for the boys are :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
20	17	31	21	8	4	4	2

Among the girls 69.77% of the intelligence quotients are below the average level of 100, while among the boys the percentage is 89.72.

On the other hand the percentage of girls with an intelligence quotient above 110 is 16 while that of the boys is 11.11.

JUNIOR SCHOOLS.

One group of Juniors, ages 9-11, is made up of one hundred and eighty-one children who are in a new school on a housing estate. The children are drawn from 45 different schools in the city. The largest number are from slum areas, which have been cleared, and they represent a group of twenty-two very poor schools in slum areas. Still another group are from fairly good elementary schools and they represent twelve different schools. The third

group are children who have always attended good elementary schools and, because of housing shortage or their parents desire to give them a good home in fairly open country, have removed into the housing estate. This group represents eleven of our best elementary schools.

Of the total number of children 102 come from poor schools with bad environmental conditions, 46 come from districts in which there is poverty but the homes are good and the children well looked after, and only 35 come from good schools and well-to-do homes.

They are thus an odd mixture and are presenting a problem of no little difficulty. Each class contains 40 or more children who may, in some cases have, attended 40 different schools and the difficulty of assessing each child's attainments is great. It was for this reason that the school was given a group test. The Simplex Junior Intelligence scale was used.

The distribution of intelligence quotients for the whole school is as follows :-

-70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
21	25	26	37	38	24	9	2

In school groups the results are :-

	- 70	70 - 100	100 +
Good School	2	11	20
Moderately good	2	21	23
Slum	17	53	32

The remaining groups of Juniors are :-

Two slum schools

Two good Elementary schools

and a small group from a Private School.

The slum schools are the largest group -
they are both boys schools :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
11	21	36	52	46	27	23	2

-70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
6	13	15	8	4	3	-	-

The larger school gives a percentage of 55.045 of boys below 100 Intelligence Quotient but it also gives a percentage of 23.80 who are well above normal i.e., whose intelligence quotient is above 110.

The smaller school gives a much larger proportion of sub-normal children i.e., 85.7 per cent. and only 6.12% are above 110.

GOOD ELEMENTARY SCHOOLS.

These are two, small, girls schools :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
1	3	11	25	22	13	12	1

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
1	5	7	11	19	6	8	1

The first gives a subnormal percentage of 45.45 and the second a percentage of 41.38 as below average. The percentage above normal score is in the first case 29.54 and in the second the percentage is 26.

BETTER CLASS SCHOOLS.

These are a good elementary school and the lower forms of a secondary school. They show a striking divergence in intelligence quotients. This is, of course, to be expected since the girls in the secondary school are to a certain extent

picked girls - that is the scholarship girls. On the other hand, the children who are fee payers do not pass so severe an examination before admission and therefore one might have found a larger proportion of girls who were below standard.

The elementary school figures are :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
14	15	31	43	21	11	4	5

The secondary school figures are :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
-	-	1	6	30	26	12	57

The elementary school is one from which no retarded child has been notified for two years. How unjustified such a state of affairs is, can be seen from the results of the group test. Of 139 girls tested 74.1% have an intelligence quotient below 100, and only 14.38% have a quotient exceeding 110.

Among the secondary school girls the proportion of girls below 100 is 5.30%, while that above 110 is 71.97%.

The small private school group comprises only 33 girls.

The distribution of intelligence quotients is as follows :-

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
1	2	5	8	5	5	4	3

Here the subnormal percentage is 48.48 while the percentage of high intelligence quotients, i.e., above 110 is 36.16.

INFANTS.

There are in two distinct groups i.e., two schools in which the newly admitted children were examined and, therefore, it is hoped, that the educational factor is eliminated and five schools in which the ages range from $5\frac{6}{12}$ to $8\frac{11}{12}$. Two of these are boys schools and three are girls.

The newly admitted children are 31 in a slum elementary school and 45 in a good elementary school. The results are odd. Three children only, and these in the good school, are below 100. Several have exceedingly high Intelligence quotients i.e., 150 +. The tests were given, by myself, under

identical conditions as regards instructions and time allowed and therefore the results can be vouched for.

Slum school, 31 Boys and girls.

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
-	-	-	-	12	8	6	5

Good elementary school, 45 Boys and Girls.

- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
2	1	-	-	3	5	14	20

The remaining groups of Infants are :-

2 Slum Schools - 231

2 Good elementary schools - 54

1 Private school - 28

The results obtained in Boys' Schools are as follows. These are the two slum schools :-

	- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
A	4	7	13	20	16	13	15	8
B	2	2	14	23	34	28	23	19

The figures for the two good elementary schools :-

	- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
A	2	-	-	2	2	2	1	7
B	1	3	2	1	6	6	8	12

The figures for the private school group are :-

	- 70	71-80	81-90	91-100	101-110	111-120	121-130	131 +
	-	-	2	1	6	7	7	5

Group tests are not entirely satisfactory but they are a measure - rather a rough one perhaps, of that something that is known as intelligence. This is proved by the fact that an entirely different series of tests papers given to the same children provide results which correlate highly with each other.

The nature of the test makes it unlikely that they could measure only special aptitudes though this is one criticism that is made of them. The separate tasks are so varied and cover so many aspects of mental effort that it is hard to believe that

specialized ability could ensure success in all of them. Most people who have given group tests to a large number of children find convincing evidence, in the reactions of different children to the tests, that these do turn upon what is generally called intelligence.

When one sees the look of dull incomprehension on the faces of some children when confronted with the new problems presented by the tests and contrasts it with the sparkle of understanding with which other children, equally young, equally shy and equally badly educated, greet the same question, one's confidence in the efficacy of the tests is strengthened.

In all cases, too, the opinion of the teachers has been sought as to the validity of the tests, and as a rule, they are in complete agreement with the results obtained.

One hears frequently the opinion expressed that the poor come of inferior stock and that it would be well to limit their increase and promote that of the well-to-do. Alternatively, one hears that given equal opportunity they would do just as well as anybody else.

In giving these tests an effort was made to test various grades of society.

Thus the children in the private school are the children of professional men - professors at the University College, and successful business men.

One would expect to find intelligent children given such parentage. In several cases the mothers had also had professions - chiefly those of teaching and nursing.

In the good elementary schools the fathers in one district are clerks, shop assistants, small shopkeepers and in the other they are trawler skippers and mates and railway men or foundry workers.

The slum childrens' father constitute the unskilled labourers of the dock yard and the fish yard.

In many cases they do no work of any description, either because they are unemployable or because trade is so bad that their unskilled work is done by boys, or not done at all.

The results of the tests seems to show that though children of good parentage and with

all the benefits that a good home can confer are slightly more intelligent than those with bad homes and dull parents, the difference in average intelligence is not so marked as one would expect. The relatively large number of low intelligence quotients among the children who are in good homes and schools is in marked contrast to the list of brilliant children from the slum schools. One cannot, therefore, generalise about social classes as such. We must realise that the only safe unit by which to assess intelligence is the individual, or at most the family.

These brilliant children in good homes are given every opportunity of using their natural gifts but the slum child is taken from school at 14 years and sent into some blind alley or precarious occupation there to waste his talents.

Such a condition of affairs is deplorable but unavoidable in the present state of world affairs.

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CONCLUSIONS.

It would appear that the majority of cases of mental defect are due to inheritance while environment plays a minor and yet very important part. Tredgold, Mental Deficiency, 5th edition - Pages 499, 500 and 510 says - "In the majority of cases the parents of defectives are not themselves defective; but they are the carriers of the impairment and they or other members of their family suffer from some form of mental abnormality."

Two methods have been proposed to prevent the propagation of persons who are defective, i.e., sterilisation and segregation during the reproductive period.

Sterilisation - Since mental defect is largely a result of inheritance it would appear at first sight that the sterilisation of defectives would afford an easy and effective means of cutting off the supply at the source.

But as regards its lessening the number of defectives it must be borne in mind that although mental deficiency is due to inheritance, it is only

a small proportion of defectives, in relation to the total number, who are the offspring of defective parents. The bulk of defectives are the progeny, not of defectives, but of "carriers" who may themselves show no marked mental abnormality. It is consequently a fallacy to imagine that sterilisation would produce any appreciable difference in the incidence of amentia.

Segregation - This is a counsel of perfection since the number of defectives is so great that adequate institutional accomodation is not available. This being the case it is necessary to consider whether other means can be taken to prevent procreation by persons who come of pronounced neuropathic stock. It is from such stocks that the bulk of defectives are produced and, there is also evidence to show that the majority of psychotics and psychoneurotics, a large proportion of the dullards, chronic paupers and unemployables are derived from these stocks.

Tredgold in this connection states that "the genetic relationship between amentia, insanity, and other minor mental disorders, and that type of

general intellectual inferiority which constitutes dullness, is a very close one. So close indeed that he is "of the opinion that the prevention of the propagation of pronounced neuropathic stocks would not only result in a far greater lessening of the incidence of mental defect than would the sterilisation or segregation of defectives, but would also be attended with incalculable advantage to the general well-being of the nation."

This statement by Tredgold can be fully endorsed by all experienced workers along this line of investigation. So long as the classes characterised by anti-social qualities continue to be perpetuated so long will the "feeble-minded" the "dull" the chronic pauper and the degenerate continue to thrive and their numerical ascendancy is simply a question of time.

BOARD OF EDUCATION

Local Education Authority.

Report of Head Teacher on an educationally retarded child

It is suggested that this Form of Report should be completed in the case of educationally retarded children attending Public Elementary Schools as a preliminary to their examination by a Certifying Officer under Section 55 of the Education Act, 1921, or Section 31 of the Mental Deficiency Act, 1913. It could also be used in any case in which the transfer of such a child to a class for dull and backward children is contemplated.

1. NAME OF CHILD..... Date of birth..... Age.....yrs.....mos.
2. NAME AND ADDRESS OF THE PARENT OR RESPONSIBLE GUARDIAN.....
.....
3. HOW LONG HAS THE CHILD ATTENDED SCHOOL? (Time spent in the Infants' Department should be included).....
4. PARTICULARS OF SCHOOL ATTENDANCE. (It is important that these should be recorded carefully including so far as practicable the causes of prolonged absence, if any).....
.....
.....
5. SCHOLASTIC ATTAINMENTS :—

(a) Reading.* Cross out every word in the appended list which the child fails to read :—

to is of at he my up or no an
his for sun big day sad pot wet one now
that girl went boys some just told love water things
carry village nurse quickly return known journey terror obtain tongue
shelves scramble twisted beware commenced scarcely belief steadiness
labourers serious

If unable to read any of these words, can the child name or sound any letters ?.....

(b) Writing.* Can the child copy from the blackboard or from a printed book ?.....

If so, please append if possible an actual specimen of the child's handwriting.

Please ask the child to write down the following and append the actual specimen. (Each sentence should be read completely through before the child attempts to write. Then read the portion over again, very slowly, in phrases of two or three words, repeating each phrase a second or even a third time after an interval of about two seconds) :—

It is on a cat, but not a dog. I saw her run by in the wet.

She came to seek or steal a bird's nest in the grass. The cruel little kitten.

*It is most important that children should have no previous warning of the words they are to be asked to read or to write.

(c) **Arithmetic.**

Can the child do—

- (i) addition of units or tens ?
- (ii) subtraction of units or tens ?
- (iii) more advanced work ? (specify)

If unable to do above, can the child count ?

If so, to what number ?

Has the child practical knowledge of money ?

(d) **Drawing and Manual Work.**

State as clearly and concisely as possible what the child can do.

Append, if possible, an actual specimen of the child's drawing, including his attempt to draw a man.

(e) **Standard or Class.***

State (i) in what standard or class* the child is actually working ;

(ii) to what standard or class* the child's actual attainments really correspond.

(f) **Recent Progress.**

What progress has the child made during the last twelve months ?

6. BEHAVIOUR AND DISPOSITION :—

(a) Is the child of solitary habits ?

(b) Does he associate with other children ?

(i) Of his own age ?

(ii) Younger ?

(c) Is he able to join intelligently in school games ?

(d) Does he ever lead at play ?

(e) Is the child amenable to ordinary school discipline ?

(f) Is he Obedient ?

Affectionate or otherwise ?

Spiteful ?

Destructive ?

Bad tempered ?

Aggressive ?

Unduly timid ?

Easily led ?

(g) Does the child show any special moral defect ?
(e.g., pilfering, lying, habitual truancy).

(h) Is the child clean in personal habits ?

7. HOME ENVIRONMENT :—

Under this heading the Head Teacher is requested to give any information with which he is acquainted concerning the child's home and family history.

Signed.....

School

Department.....

Date.....

The figures on the sketch plan of Hull
shows the distribution per thousand of :-

(1) Idiots, imbeciles and low grade
feeble minded persons :

(2) Educable feeble minded children:

(3) The ascertained 'retarded' children.

The percentages are calculated on the
1921 census returns since the figures for the
1931 census have not yet been received.

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POPULATION AND BIRTH AND
DEATH-RATES, ETC., FOR
THE WHOLE CITY.

POPULATION : 315,200.

Birth-rate.....19.2
Death-rate.....13.2
Zymotic Death-rate..... 0.8
Infantile Death-rate..... 81
Estimated Population
per acre.....23.5

SKETCH PLAN.
CITY AND COUNTY OF KINGSTON - UPON - HULL.
SHOWING IN MUNICIPAL WARDS FOR
---1931---

Birth-rate per 1,000 of Population.
Death-rate -ditto- -ditto-
Zymotic Death-rate -do- -ditto-
Infantile Death-rate per 1,000 Births.
Estimated Population per Acre.

IDIOTS & IMBECILES & LOW GRADE
FEEBLE-MINDED CHILDREN
PER 1,000.
EDUCABLE FEEBLE-MINDED CHILDREN
PER 1,000.
RETARDED CHILDREN PER 1000 - MARKED '(b)'

