

CHAPTER 1.

Since the compilation of accurate statistics of birth and death has become the universal practice of civilised societies, it has become apparrant that the rate of natural increase of different sections of the human species is by no means uniform. Inequalities are apparrant between the rates of increase of the different nations, and between one province and another of the same nation: and when we consider sections of population distinguished not by locality, but by religion, race, occupation or social class, the inequalities observed arrest attention by their magnitude. The tendency to increase would seem to be natural to all mankind: it is indeed common to the animal and even the vegetable world, and we might expect that such an ancient and universal proclivity would manifest itself with the greatest uniformity. It is evident, however, that this tendency is called forth to a very unequal extent by the conditions of society with which we are familiar<sup>a</sup>.

If the human race be now undergoing, as it has undergone in past ages, a process of evolutionary change, the inequalities of human increase are evidently the main, and probably the only means by which such change is brought about. It is ~~important~~ important to observe, however, that evolutionary change is not a necessary consequence of any inequality of natural increase. To produce such a change groups which differ in their rates of increase must also differ on the average in their heritable qualities. Moreover, the association of rate of increase

with heritable quality must continue from generation to generation. If we were to imagine the rates of increase to be assigned by chance, a type which had at one moment an advantage would not in consequence continue to become predominant, and no evolution could be predicted. Only if in the circumstances of human life there exist causes which continually incline one type of man to increase more rapidly than another can we be sure that a permanent effect is being wrought upon the constitution of our species.

When this condition is being fulfilled changes of the predominant type may occur within short periods of history. Of two isolated groups with equal mortality, of which one produced 5 children to the other's 4, one would in a century double the ratio which it bore to the other. If continued, this apparently small difference in reproduction would in a few centuries lead to an enormous preponderance. It is easy to see that within a single community such inequalities in the rates of increase of different groups would, if the groups were sufficiently isolated, entirely revolutionise the composition of the population. Moreover such a change could scarcely take place without producing the most profound change upon social institutions.



The limitations of random mating, or the means of isolation, are of several kinds. Locality, religion, language, race and class, appear to have been in the past as in present times, by far the most important. Locality as an agent checking intermarriage is no doubt of diminishing stringency in days of rapid and frequent transit: nevertheless, reinforced by language, it is still largely responsible for maintaining the distinctness of national characteristics. The religious barrier, though always formidable, is also diminished within the influence of a tolerant civilisation. The limitation of social intercourse, which is the effective barrier in civilised communities, is brought about by differences of class. Indeed there is no better way of specifying the class to which any individual may belong, than by indicating the families into which he or she may marry, without social hindrance. Wealth and occupation have an influence varying with place and time, an influence which beauty, personal charm or special gifts may wholly or partly outweigh. The surest test of class would seem to be <sup>freedom</sup> ~~freedom~~ of intermarriage, and this is the precise sense in which I wish the word to be here understood.

If passive obstacles were the only means by which types are kept distinct, the human race would long ago have become fused into a homogenous population, for no obstacle is

absolutely prohibitive: a certain diffusion of mankind takes place across all barriers. In practice the barriers to human inter-marriage exert a selective influence which may prevent the diminution of the differences which they separate, or even cause them to increase. This may be seen in the deliberate selection exerted by the immigration regulations in the United States of America, and in the British Dominions, as also in the fact that different occupations require different types and degrees of natural ability. In the same way it is likely that the difference of temperament represented by different religions is not necessarily decaying by reason of the interchange of proselytes, but that ~~such changes~~ <sup>conversion</sup> are often the outcome of an original temperament to which the new faith is capable of making a strong appeal.

The average rate of increase of the world's population in recent decades is probably not far from 116 per 10,000 inhabitants per annum.<sup>1</sup> For various civilised nations the corresponding values range from 181 in New Zealand to 3 in France.<sup>2</sup> To be strictly comparable allowance should be made in such ~~cases~~ figures for the differences in age distribution of the different populations. The arrival of young

<sup>1</sup> C.H.Knibbs, Census of Commonwealth of Australia, 1911. Appendix A. Vol.1. Page .

<sup>2</sup> A.Newsholme, The Declining Birthrate, Page 8.



immigrants naturally raises the birthrate and lowers the death rate. However, such a correction cannot significantly affect the contrast of the figures 148 for Prussia and 112 for England and Wales, with that given above for France. The larger part of these differences must be put down to an actual disparity between these nations in the excess of reproduction over death.

These differences, important as may be their political aspect, are exceeded by those which exist between different classes of the same nation. In an admirable survey M. Lucien March has shown that in France large differences exist in the average number of children born to each marriage. Of families of which the head is a married man of 20 to 65 years of age, the average number of children is 360 to every 100 marriages. For workmen the corresponding number is 404, for employes other than workmen 300, while for employers, including farmers, manufacturers, traders, and a small percentage of the liberal professions, it is 359. It is not possible to translate these figures into those indicating the natural rate of increase, which depend also upon mortality and marriage rate at different ages: but it is easy to see that other things being equal, if 360 children to 100 marriages is just sufficient to maintain a stationary

Lucien March. The Fertility of Marriages according to Profession and Social Position. Problems in Eugenics. Pages 208 to 220.

population, then 404 represents an increase of some 12 per cent in each generation, or about 38 in 10,000 every year, while 300 represents a decrease of about 60. Further subdivision shows that these groups are composite not only in respect of profession but also in reproduction. For 100 employers whose marriages have lasted 25 years the number of children is 370 but for those of the liberal professions it is only 303. For workmen in public employment the size of the family diminishes as the wage increases, over the wide range from about 355 for wages under forty pounds a year to 240 for such skilled labour as earns from ~~160~~ to ~~240~~ pounds. It would seem that in France the connection of social status with a low rate of reproduction is striking and fairly uniform. (Insert)

A number of remarkable investigations have dealt with the same point in England. Mr Whetham has made use of the information supplied by Who's Who to study the fertility of the higher ranks of the professional and official classes, and finds that the number of children to 100 marriages has fallen from 519 to 308 in passing from those married before to those married after 1870. He notes that for clergymen the diminution is much less and for military families considerably

Whetham. Heredity and Society. p 60.



In Scotland, the Census of 1911 provides material for the comparison of the average number of children according to the occupation of the father. A valuable account of some of the facts has been given by Dr J.C. Dunlop. The age of the wife at marriage is an important factor which has been partially eliminated by Dr Dunlop: this age was restricted to the five year period, 22 to 26; only marriages which had lasted 15 years or more were considered; the occupations are arranged in order according to the average numbers so obtained. The average of all occupations is 582 children in 100 families. The most fertile occupations comprise the large groups of Crofters, 704, Coal, Shale, and Ironstone Miners, 701, and the Agricultural labourers and farm servants, 642; the groups of moderate size of Old Age Pensioners, 695, Fishermen crofters, 693, and Coalheavers, 661; besides the small group of Plasterers' labourers, 701. The least fertile are the large group of clerks, 438; the moderate groups of Physicians and Surgeons, 391; Advocates and Solicitors, 392, Literary and Scientific pursuits, 409, Schoolmasters and Teachers, 425, Art, Music and Drama, 427, Ministry and Clergymen, 433; besides the small groups of Army Officers, 376, Dentists and Assistants, 386, Veterinerary Surgeons, 400.

The contrast between the social status of these two sets of occupations is obvious. Among the least fertile are the learned professions, among the most fertile the humblest of manual labourers. The differences in the average numbers of children are the more remarkable owing to the severe restriction to which the age of the mother has been subjected. There can be

1.77  
701  
391  
310  
274  
26  
2.19  
2.4 | 52.5  
2.5  
2.4  
11

little doubt that the average age <sup>at</sup> marriage of women in the  
labouring classes is decidedly lower than that in the professional  
classes; but the restriction of ages to within a short age group,  
tends to annul this cause of unequal reproduction.

6  
Inset  
(cont.)

Dr J.C.Dunlop. The Fertility of Marriages in Scotland. Journal  
of the Royal Statistical Society.



more than for the remainder. A similar investigation by the same author shows that for families which have held a peerage for at least 3 generations, the number has fallen from 710 for marriages in the thirties of the last century to 313 in the eighties. Neither of these investigations is based upon large ~~figures~~ numbers, and from the nature of their material they are probably not comparable with the French figures. They do, however, comprise significant facts, first as to the low rate of reproduction of the English upper classes at the present day, and next that this rate of reproduction has fallen during the latter half of the nineteenth century at a rate greatly exceeding the decline in ~~fert~~ fertility of the general population.

These two conclusions have been ~~remirkably~~ emphatically confirmed in a remarkable investigation carried out by Dr David Heron. His method consists in a comparison of the different metropolitan boroughs into which London is divided. The districts in which the average social level is highest, are indicated by a high proportion of professional men and of domestic servants, and a low proportion of general

Heron. On the Relation of Fertility in Man to Social Status.  
 Drapers Research Memoirs. Studies in National  
 Deterioration. No.1.

labourers, pawnbrokers, employed children, and occupants averaging more than two in a room. The fertility is measured by the birth rate for 1000 married women aged 15 to 54, or in the earlier figures by the birth rate for 1000 married women over 20. The data were obtained from official publications, and refer to the years 1901 and 1851. The birth rate was found to be closely associated with all indications of a lower social level. Both years show the same general relationships between undesirable social conditions and a high birth rate, but that the intensity of this relationship has almost doubled in the fifty years. In <sup>o</sup> connection with these results the importance of which is manifest, it should be remembered that the comparison is made only between districts, and that in all the districts there is a very considerable mixture of social classes, so that if the differences in birth rate rate are, as it would seem, principally a matter of social class, the differences in the birth rates of these classes must be far greater than that between the different districts. In the second place since the birth rates are reckoned upon the number of married women, the effects of celibacy are omitted, and the whole of the difference is to be ascribed



to differences of fertility due to age, constitution or conscious restriction. In the opinion of Dr Heron differences in the mean age of wives was sufficient in 1851 to account for the whole difference in birth rate, but he gives convincing figures to show that in 1901 it will not account for more than half the difference. (Insert)

In the State of Rhode Island statistics are available of the number of children born to each married woman at the date of the Census, the religion, country of birth, and age of the mothers being also recorded. These valuable records throw light from another angle upon the facts we are considering, for the native Americans are on the whole in an unquestionably superior social position to the immigrants. Of the American born married women 28.4 per cent were childless, and of the foreign born 17.5 per cent; while the average number of children to all American born married women was 2.06 per cent, and to the foreign born 3.35. \* The foreign born mothers thus have 63 per cent more children than those of American birth, while deaths up to the time of the Census had reduced the excess to 55 per cent. In this astonishing difference

I F.L.Hoffmann. Problems in Eugenics. Maternity Statistics of the State of Rhode Island. p.334

\* Dr Hoffmann has been good enough to inform me that he unhesitatingly ascribes these differences to differences of class.

It is sometimes imagined that the differences in reproduction between different classes depend upon circumstances and ideas peculiar to those who enjoy leisure and education. It has even been deemed probable that where poverty is severe the most healthy and efficient will produce their kind most freely, as is the case with animals in a state of nature. Whatever may have been the case in the past, a careful and most valuable investigation has shown that data drawn from the poorest classes in the industrial towns of Blackburn, Preston, Glasgow and Birmingham, and from the Royal Albert Asylum, Lancaster, proves that the most capable among these classes have the fewest children. The correlations found are not large, for we are dealing with variations within a population of nearly uniform culture, but there can be no doubt that when allowance is made for the age of father or mother, the larger net families subsist upon the smaller wages; in other words the poorer wage earners have the greater number of surviving children. Similar results are obtained when other tests of capacity, such as health, regularity of employment and temperance of the father, or cleanliness of the home, are substituted for wages.

- Eugenics Laboratory Memoirs XVIII , On the Correlations of Fertility with Social Value.



of reproductivity the religious element may be distinguished. Among the Protestants, 30.7 per cent of the American born married women were childless, against 19.4 of the foreign born: among the Catholics the corresponding figures are 24.2 against 16.9 per cent: among the Jews 18.9 and 11.4 per cent.

The above figures refer to 1905; compared with similar results for 1885, the average number of children to American born wives has decreased <sup>26.7</sup>~~28.6~~ per cent, while that of foreign born wives has decreased 28.6 per cent. Of those living at the time of the census the decreases are 16.6 per cent, and 17.2 per cent. The relative rates of reproduction of the different elements of the population is thus stationary, but the general rate has diminished in spite of the steady replacement of American by foreign blood. Evidently in the United States as in Europe powerful influences are at work in the direction of reduced general fertility, but as in Europe the fertility is strikingly different in different classes of the population.

We have now briefly summar<sup>a</sup>ised the main classes of facts upon which is based the conclusion, which is I believe admitted by all who are aware of the facts, namely that

the lower orders of society are reproducing their kind at a rate greatly exceeding that of their social superiors: and it now remains to make some observations upon this extraordinary condition of mankind. *X.*

1. In the first place the language of evolutionary philosophers has endowed the word success with a biological meaning by bestowing it upon those individuals or societies who by their superior capacity <sup>for</sup> ~~of~~ survival and reproduction are ~~prog~~ progressively replacing their competitors, as living inhabitants of the earth. It is this meaning that is conveyed by the expression "success in the struggle for existence:" and this we may properly agree is the true meaning of biological success.

But success in human endeavour is <sup>incompatible with</sup> ~~ordinarily associated with~~ the maintenance or attainment of social status; <sup>and the evidence of the preceding paragraphs</sup> ~~The~~ biologically successful are the socially unsuccessful. <sup>whereas the</sup> ~~The~~ struggle for <sup>would have meant</sup> ~~the~~ existence is, within such civilised societies, the inverse of the struggle for property and power.

2. The evidence which has already been submitted indicates that this curious inversion exists throughout the civilised nations of the modern world. Of uncivilised nations it is impossible to speak with certainty. Social

*Unsuccessful people*  
*See - 1/2 page, 1/2 page of evidence*  
*what*



distinctions of the kind with which we are concerned do not exist among savages: and of the Eastern civilisations of India and China we are unfortunately not in a position to produce statistical evidence. The testimony of ancient writers is, ~~it~~ however, unanimous and convincing in declaring that a similar state of affairs was ~~evidently~~ vividly evident in ancient Greece and Rome: and there have not been wanting historians of the highest authority who have ascribed the downfall of the stable and brilliant civilisation of ancient Europe to the gradual elimination of the superior classes.

3. Of the <sup>evolutionary</sup> ~~racial~~ effects of the difference between the natural rates of increase of different classes, it is impossible to judge without reserve in an absence of an understanding of the ~~causes~~ causes which produce this anomalous difference. These causes we shall attempt to el<sup>u</sup>cidate: but for the present we may be certain, apart from the evidence of common observation, that real <sup>heritable</sup> ~~racial~~ differences distinguish the different social classes of any stable ~~one~~ civilisation. The desires for property and power, freedom, ease and deference, are universal attributes of mankind: and those who have the better means of obtaining their desires will <sup>necessarily</sup> on the average enjoy the greater social success. In all ages, though in different degrees, economic ability, manual skill, intellectual power and personal beauty have <sup>led to</sup> ~~been the means of~~

social <sup>promotion</sup> elevation: now, no doubt, should we omit patience, industry and good health, often though these are found in a humble station.

Taken together these qualities are those which best deserve the personal admiration and the racial ambition of mankind.

Indeed it is clear that all that is admirable is likely to be a social advantage by reason of the very admiration which it excites: and if malpractices and abuses are sometimes found to be means to success, public opinion eventually attempts by legal enactments to check the advantage of the undeserving.

The existence of <sup>such abuses</sup> means to ~~undeserved~~ success, is as it should be in the focus of our attention, because vigilance in this direction is a prime necessity of good government;

the vast majority of cases where success is due to valuable ~~or~~ <sup>and</sup> ~~and~~ <sup>estimable</sup> noble qualities, do not concern our vigilance, though they are apparant to our reason. In the judicious words of Major Darwin

"It cannot be denied that numbers of those characterised by certain marked tendencies, such for example as the tendency to disease, crime, idleness, drunkenness, reckless expenditure, & together with the mentally defective, do continually keep falling out of the ranks of the well to do into the poorest social groups, whilst those endowed with certain valuable qualities, especially perseverance and the power of taking thought for the

*Eugenics in Relation to Economics and Statistics. p 8.*



future, do keep rising in the scale of society as graded by wealth." <sup>The social machines by which persons possessing special gifts are</sup>  
 In the past intellectual ability and artistic <sup>promoted & furthered for which ~~at least~~ ~~the~~ ~~gift~~ ~~can~~ ~~and~~ ~~gifts~~ ~~are~~ ~~needed~~, have different</sup>  
 skill <sup>as of the past</sup> rose to fame and affluence by means of distinguished patronage,  
 in the present days of compulsory education <sup>wherever it appears</sup> scholastic ability is ~~still~~

Paragraph 2

growth for eye to eye

strictly sifted up the scale of our educational system,

and large numbers of the children of the poor enter the

professions. <sup>In some eyes enterprise and in some professions may be the</sup> ~~Female beauty, now as always, exerts its~~

<sup>more highly rewarded,</sup> ~~relative of initial achievement:~~ but the greater part of the

upward current is probably due <sup>at all times</sup> ~~at present~~ to the factors which

Major Darwin indicates, and consists in a gradual process

of economic advance. We must, however, remember that the

upper social classes at any one time are stored with the

qualities which have had occasion to rise during a long

period of past history. <sup>The possibility of the extinction of any class which has</sup> ~~If such classes are being eliminated,~~

~~played the distinguished part in our national history, would be a more serious cause for regret than~~  
~~without a compensating selection within each class, the loss to~~

<sup>the</sup> ~~destruction of all the architecture of a distinguished period; but the possibility that, without such~~  
~~the nation and to the world would be too enormous to admit of~~

substantive

~~as, in the absence of compensating selection within each class, most certainly be the case, every quality~~  
~~expression. No positive evidence has been produced to show~~



~~which exerts admiring or covetous powers, in human hands a degree, ~~itself~~ is itself doomed~~  
~~that beneficent selection is at work within each social class,~~

~~to gradual elimination opens out a prospect of impoverishment of the nation and of the world which is clear~~  
~~and as we shall see it is almost certain that such~~

~~begins imperious,~~  
~~selection does not exist. The ~~disease~~ which afflicts modern~~

~~nations and has perhaps destroyed the nations of antiquity,~~

Chapter III

is real: we shall consider in subsequent chapters whether it be incurable.

4. Two features of a political nature necessarily affect nations in which the rate of reproduction favours the lower classes. The general trend of families will be socially upwards. <sup>1, since the proportion of their social superiors is continually diminishing,</sup> The majority of the population will be stirred to social ambition by the success of others. They will on the whole be learning to comport themselves in conditions of greater affluence than their kin have formerly experienced, a circumstance which cannot fail to influence contemporary art, literature and manners. They will however look back to ancestors of humble origin and perhaps despised occupations, and this circumstance <sup>of</sup> ~~coupled perhaps with~~ the contemporary existence of poor relations, <sup>emphasised, it may be, by</sup> is likely to cause a decay in the ancient sentiments of reverence for ancestry and loyalty to kindred. We should expect pride of race to be an exception in such a nation, and since a man must find some support for his pretensions, he is not likely to overlook the solid benefits of his purse. Such a change of sentiment in the body of the people naturally causes the substitution of wealth for birth as the principle qualification of power and influence.

The second feature to which we wish to draw attention is that this peculiar distribution of reproductivity is such as to make the rich richer and the poor poorer.

1. The recruiting of the employing classes from the ranks of the wage earners in the cotton industry. J of RSS Feb 1912, Vol 75 pp 293-366. Among weavers now 70% of the existing proprietors are found to have risen during their lifetimes from the ranks of the wage earners, among spinners the figure is less considerable, but it would seem that now 40% of the directors are quite 60% of the managers have their rise.



The largest families have to subsist upon the smallest wages: while among the wealthy, the estates of four houses are sometimes concentrated upon a single grandchild. The position of the wealthiest class forms an interesting commentary upon Malthus' law of population. For at ordinary rates of interest the estate of a wealthy family might by the mere efflux of time double itself in 18 years. This is about four times the rate of increase of our population in general, and far larger than that of the wealthy, who are almost certainly diminishing in numbers. It is not however at all beyond the powers of human reproduction, to increase more rapidly than the accumulation of capital, and this is what we should expect of any animal species placed in similar circumstances, or indeed of the human race as a whole, if the general means of subsistence were increasing so fast.

Should this come here?

This accentuation of economic differences is the natural concomitant of widespread charitable action designed to relieve the distress of the poor, and of ~~the~~ subsidised social legislation in ~~the~~ modern times, as it would seem to have accompanied the enormous gifts of money and food distributed to the soldiers and people of ancient Rome.

b. Lastly it should be noted that the gradual impoverishment of the genetic qualities of the race, are not to be expected to show themselves primarily in the upper classes.

\* From 58 b.c. to 590 a.d. (after which it was continued as an ecclesiastical charity) a monthly ration of corn or bread was distributed to the people of Rome. That similar economic conditions existed in other cities may be inferred from the adoption of the same practices in Byzantium (4th & 7th century) Alexandria and Antioch. E.B. XXVI 664, 665  
Welford, Strength of Nations, 17. Gregorovius, Rome in The Middle Ages, II 55, 56

These can continually recruit ability, by more and more perfect social machinery, from the lower orders of society, among the multitudes of which a sufficient supply of a high level of ability will for a long time be forthcoming. There is no source however from which the working classes can recruit superior talent,; they must submit to a gradual and progressive impoverishment in every quality of body and mind which excites ~~admiration~~ admiration, or commands success. The effect of universal education is in this respect paradoxical, for in an attempt to raise the intellectual level of the workers, we withdraw in each generation from the working population, the majority of those who respond to their intellectual opportunities. If the differential birth rate be the cause of the decline of civilisations, then we must look for <sup>its permanent racial effects</sup> ~~the symptoms of decline~~ at the diminishing ability, vigour and independence of character of the working classes.



II

1 Causes of differential birth rate  
2 may be hereditary  
3 Evidence of the inheritance of mental  
4 & moral qualities  
5

6 Effect of age of marriage  
7 Influence of mental & moral qual.  
XXI upon marriage & age of marriage  
8

9 Effect of conscious restriction

10 Infanticide

11 Feticide

12 Contraception

13 Prostitution

14 Influence of mental & moral qual. on conscious limitation

15 Natural selection of the Reproductive  
Instincts

16 Evidence of evolution in the R.I.  
17 }  
18 }

Analogous evolution among animals

Analogous evol. of mankind against disease

Conclusions

## CHAPTER 2.

Of the many causes to which may be assigned the differences in the rate of human reproduction in different sections of civilised societies, those which depend upon innate and hereditary disposition have received the smallest share of popular attention. Yet the further researches are extended the more sure does it become that the greater part of a mans nature and character are built upon the framework of his <sup>hereditary</sup> endowment. ~~Even~~ in such matters as success or failure, eminence or obscurity, health or disease, in each of which many outward circumstances are involved, the ordinary differences of innate quality appear to outweigh all but the most extreme variations of outward ~~virtue~~ <sup>fortune</sup> and circumstance. It might philosophically be doubted whether such elusive features as the qualities of mind are susceptible <sup>to</sup> just comparison, yet in the attainment of practical ends mankind is impatient of philosophical difficulties, and the enormous growth of the examination system, shows how widely an impartial test, even in the narrow sphere of <sup>in</sup> scolastic attainment, is believed to be the best method of discriminating among the candidates for an appointment.

It is the common experience of all who have intimate knowledge of the characters of members of the same family, that resemblances exist in the mental and moral attributes as striking as those to be observed in the physical organisation of equally near relatives. The first to submit this fact to scientific scrutiny was Francis Galton, who in his Hereditary Genius collected evidence that the relatives of many hundreds of eminent Englishmen comprised according to their degree of kinship many times the proportion of eminent persons, which would have been expected had the qualities of distinction and success been assigned at random to the population at large. The



criticism that these men principally owed their success to favourable circumstances, among which an eminent kinsman is not to be overlooked, may be answered by the facts that those classed as eminent are but a small proportion of the well to do: that they are in some measure drawn from all classes: and that favour and patronage will not account for the distinction of the father, uncles and grandfathers of the eminent men: the fathers of the 286 judges of England from 1660 to 1865 <sup>included</sup> contained 360 times as many eminent men as would be found were they ~~the latter~~ distributed at random.

Without entering into a detailed criticism of those modern researches which have emphasised the importance of Galton's conclusions it is necessary to give some brief examples distinguished by the directness of their methods and the simplicity of their results. The mutual resemblance of brothers and sisters of school age has been measured by Karl Pearson.<sup>1</sup> A number of mental and moral qualities were selected: the children were divided into broad categories according to the estimate of the teacher: and the fraternal correlations were calculated by those special methods which Pearson himself has developed for the treatment of broad categories. In spite of the uncertainty which one would expect a single personal judgment to be impeded, and which would certainly tend to decrease the degree of apparent resemblance, it was found that the correlations obtained for these mental qualities are just as great as those ordinarily found to subsist between physical measurements.

Workers in experimental psychology have devised tests of a mental nature, success in which depends little, if at all, upon previous training and experience. An interesting and careful investigation of the resemblances between twins was carried

<sup>1</sup> ~~Biometrika~~ ~~Vol III~~  
 On the laws of inheritance in Man, II On the inheritance of mental and moral characters in man, and its comparison with the inheritance of the physical character. ~~Biometrika~~ III pp 131-190



out by E.L.Thorndike of Columbia University, New York. The twins were subjected to a series of mental tests, and a number of physical measurements were also taken: the degree of mental resemblance found was much greater higher than that found between ordinary brothers and sisters, and was again closely similar to that found between the physical measurements.

Students of genealogy have frequently observed the recurrence of particular mental traits and aptitudes among blood relatives. A very extensive body of such material has been collected by the energy of C.B.Davenport at the Eugenics Record Office at New York. In the published summary of this material<sup>2</sup> evidence can be found of the large part played by hereditary disposition in the causation of almost all the forms of ability or weakness by which men are distinguished.

When we consider the causes which normally lead to the production of children, the occasions upon which individual temperament is liable to exert a decisive influence will be seen to be very numerous. A considerable percentage of persons of both sexes never marry: the age of marriage is very variable, and with women especially the effect of age is very great: according to recent figures<sup>3</sup> the maximum rate of reproduction for married women occurs at 18, and at 31 has fallen to half the maximum value. A bride of 30 may expect but half 38 per cent of the family she would have borne had she married at 20, and by 35 the number is further reduced by one half, and is a little less than 19 per cent. With men the potentiality of fatherhood is usually retained to a considerable age, nevertheless the age of marriage is still very influential, since the most frequent age for the brides increases steadily with the age of the bridegroom. For bridegrooms of from 34 to 44 years of age, brides of the most frequent age are very regularly ten years junior to their mates. Using the age of their wives as a basis for calculation, men marrying at 40 to 44 may be expected to have only two fifths of the number of children of men marrying 20 years earlier.<sup>4</sup>

<sup>1</sup> E. L. Thorndike, *Measurements of Twins*, Columbia University Contributions to Philosophy, Vol. 13, No. 3.

<sup>2</sup> C. B. Davenport, *Hereditary in relation to Eugenics*, London 1912.

<sup>3</sup> G. H. Knibbs,  *Census of Commonwealth of Australia, Appendix A, vol I p 318*

<sup>4</sup> *ibid* p 211.



The choice between celibacy and marriage, and if marriage be decided upon, between the precipitation and the postponement of the union, is in modern societies very much a matter of temperament. Some men are little charmed by female society, others of a more sociable disposition seem for long unsuited to a permanent alliance: in all normal men the primary impulses of sex appears to be sufficiently developed, but in civilised circumstances the strength of this impulse is not directly exerted towards the conjugal condition: in many men it is overcome by prudence and self denial, in others it is perverted into unproductive channels. The various privileges and obligations of marriage appeal very differently to different natures: patience, <sup>an</sup> ~~cau~~tion, and a strong sense of financial <sup>c</sup>responsibility, often postpone, or prevent the initiation of desirable matches: confident, passionate, and impulsive natures marry in circumstances which would awake in the prudent the gravest misgivings. The influence of the innate disposition in this matter is increased by the absence of any strong social opinion which might regulate the erring fancy of the individual: by the conditions of urban life which set no limit to the variety of acquaintance, and by the disappearance of even those customary standards by which marriage is so strictly scrutinised in primitive communities. Upon consideration it would seem that there is little room for the ~~action~~ of chance: the man who from an early disappointment condemns himself to celibacy, is less the victim of misfortune than of his own temperament, as is the unwary youth who becomes the lifelong victim of an unfortunate entanglement. Neither case is common: neither can justly be ascribed to chance.

Beside these causes of what may be called natural infertility, there exist in civilised and savage life, and have ~~exi~~ existed from the most ancient times, a number of practices by

which the increase of population is artificially restricted.

*Infanticide, feticide or abortion, the prevention of conception,*  
of which the most ancient ~~methods~~ <sup>prevention of conception</sup> have been called onanism, and ~~infanticide, feticide or abortion,~~ recently devised neo-malthusianism, have all been or are now practised among every considerable body of people: to these should be added such practices as prostitution and pederasty which attain the same purpose by competing with instead of corrupting the conjugal condition.

The extent to which infanticide is and has been practised may be appreciated by a perusal of the masterly section which Westermarck devotes to the subject. Among uncivilised people though not universal it is commonly customary and frequently compulsory. The conditions of civilised life while refining the means, increase the motive for infanticide. Though forbidden by Buddhism and Taoism it is frequent in China. Among the ancient Arabs it seems to have been usual and approved; it is repeatedly condemned in the Koran. It is not mentioned in the Hebrew Scriptures, and was probably unknown to the early Jews. In India where it was forbidden by the Laws of Manu, the Ragputs are said to have been particularly addicted to the practice, for which, however, priestly absolution was obtained. In Ancient Greece the practice of exposing healthy infants though hardly approved, was tolerated, ~~and~~ except at Thebes where it was a capital crime. In Rome though the destruction of deformed infants was enjoined, <sup>or</sup> the murder, and the less decisive act of exposure, of healthy infants was contrary to the prevailing moral standards. X

When public opinion does not tolerate infanticide it not infrequently condones the destruction of the unborn embryo. Among Hindoes and Mahometans artificial abortion is extremely

<sup>†</sup> Origin and Development of Moral Ideas

X I remember Grotalium speaks of exposure as normal & right



common and is hardly reprobated by public opinion. In Persia every illegitimate pregnancy is said to end in abortion: the act is done almost publicly, and no obstacle is put in its way.

In Turkey, both among the rich and the poor, even married women very commonly practice abortion after they have given birth to two children, one of which is a boy. In ancient Greece feticide was recommended by Aristotle and Plato, when the number of children, or the parental age prescribed has been exceeded.

During the Pagan Empire, abortion was frequently practised, either from poverty, or licentiousness or vanity. The very frequent occurrence of this crime is evidence of the comparative indifference with which it is looked upon by large numbers of people in recent times.

The sin of Onan<sup>1</sup> was no doubt recorded to check the frequency of this reprehensible practice: **a** similar perversity ~~and~~ equally unnatural and licentious is condemned by Lucretius<sup>2</sup>. It is unlikely, however, that such means should be widely adopted until the general condemnation of the alternative methods should serve to isolate, and the ingenuity of modern inventors to facilitate contraceptive methods. At the present time there can be no doubt of the wide prevalence of <sup>which practice</sup> the practice among married couples in Europe and America. It is <sup>a</sup> earnestly urged in certain restricted circles, that only by the adoption of these methods can private want and public scarcity be prevented, and their use is put forward not only as a blessing, but as a duty. Public opinion however, so far as one can gauge it upon so private a topic,

<sup>1</sup> Genesis 38.9.

<sup>2</sup> Lucretius.4.1260.

<sup>1</sup> "The great fertility of some women may require such a license."  
*What page.* Pliny.29.4.37.

x Why does facilitating contraception increase onanism? This para is not quite clear.

appears to resemble that of the Roman Empire respecting feticide, that it is a venial offence, and one that is frequently excuseable.<sup>1</sup> It is important to observe that deliberate contraceptive methods have been confidently supposed to be the most important causes not only of the general decline of the birth rate in recent decades, but especially of the diminished fertility of the upper classes.<sup>2</sup>

It may be presumed that prostitution has prevailed, though to a greatly varying extent in all great cities of ancient or modern times. ~~A great zone comprising the greater part of the Mediterranean Basin and Southern Asia appears to be obstinately~~ <sup>Many savage and civilized peoples appear to have been or to be obstinately</sup> addicted to pederasty. These two vices each supply an incomplete satisfaction to the sexual needs of man, which can only be wholly satisfied by a happy marriage. The one is adapted to the more immediate and fleeting carnal appetite, the other appears to make up for its physical deficiencies, by the possibility of intimate and even profound friendship. There can be no question as to the effect of either upon the birth rate. Even by polyandry, where the procreative powers of several men are matched against the fertility of one woman, the birth rate must be much diminished. The prostitute, moreover, is by her economic dependance upon her occupation, and usually by her disregard of moral standards, strongly urged to use all the preventative methods, which the ingenuity of her time can command. It may reasonably be assumed that the extent by which the proportion of unmarried men in any society exceeds a certain low standard, must be ascribed to one or other of these vices.

<sup>1</sup> sup p 23

<sup>2</sup> Eugenic Review. Jan. 1913. Human Fertility. Cobb.

Drapers Research Memoirs. Heron. *On the relation of Fertility in Man to Social Status*



What is a reproductive instinct? 25  
Does such a thing truly exist?  
Sexual and parental, yes.

It may readily be understood that all the practices by which the limitation of human reproduction is consciously effected, encounter the resistance of the reproductive instincts. The motive of economic necessity is indeed too weak for a direct encounter with the sexual ~~instincts~~ impulses, but even the most elaborate subterfuges of human ingenuity are the more distasteful to the individual, and discredited by the society, in which the reproductive instincts are more fully perfected. Where parental tenderness is felt towards the new born infant, its slaughter becomes hard, shameful, and even shocking.

To the conscience untrained by need and custom, all the practices with which we are here concerned appear both repulsive and disgraceful. Among many savage races infanticide is unknown, save as serious crime. The aboriginal Australian, with whom it is habitual, is said to be ashamed of it: according to another observer he feels, in the commencement of his career, that infanticide is wrong, and that its committal brings remorse. Among civilised nations the natural reluctance of the ~~parent~~ parent is often supported by superstitious beliefs, as that of the Chinese that the souls of the murdered little ones may bring misfortune, but this is not so in the eloquent passage in which Epictetus' opposes the doctrine of Epicurus that men should not rear their children: "Even a sheep will not desert its young, nor a wolf: and shall a man? What will ye have us to be silly creatures like the sheep? Yet they desert not their young. Or savage like wolves? Yet even they desert them not? Come, then, who would obey you if he saw his little child fall on the ground and cry?" The history of the Jews presents a people among whom the reproductive instinct would seem to be armed

Dissertationes. 1.23. Epictetus.

I don't know if this page only deals with infanticide. There is no innate connection between the sexual and the parental instincts. The desire to have children may where the parental instinct is satisfied (or absent) I see no reason why contraceptive methods unintentionally arouse opposition.

I doubt it, if you include. Can you include. How can you talk?



at all points. Besides frequent expressions of abhorrence for sacrificial infanticide, which may have been a prehistoric practice of their ancestors, and the single example of Onan, it seems to have been unnecessary, even to denounce the vices <sup>which aim at limiting</sup> ~~which check~~ population. It is not without significance that from this people should originate three of the principle religions of the modern world. The intensity with which Jewish instincts are directed towards the preservation of their children, is shown in the story of the slaughter of the Innocents,<sup>1</sup> in the curse against Babylon,<sup>2</sup> and the remarkable incidents during the captivity in Egypt,<sup>3</sup> in which on the first occasion the Egyptians are said to have attempted to destroy the male children of the Jews, and in the second the wrath of Heaven was directed against the first born of the Egyptians. May we conjecture from this remarkable account that the Egyptians, whose restricted territory could not support an unlimited growth of population, practised infanticide, and wished to enforce the hateful practice upon their Hebrew residents? <sup>(4)</sup>

In the second place the practices by which population is limited are usually enforced at the personal choice of the <sup>parents</sup> ~~parents~~. Even among savages, where scarcity falls upon the tribe as a whole, a considerable latitude is allowed. In some tribes compulsion exists, but personal choice is ~~still~~ <sup>always</sup> influential. The Line Islanders allowed only four children to get a chance of life: the mother had the right to rear one child, whereas it rested with the husband to decide whether any more should live.

<sup>1</sup> Matthew. 2. 16 18.

<sup>2</sup> Psalm 137. 9.

<sup>3</sup> Exodus 1. 16. Exodus 12. 29.



In Kadack every mother was permitted to bring up three children, but the fourth and every succeeding one she was obliged to bury alive herself, unless she was the wife of a chief. Among more civilised societies the burden of increasing population is most immediately felt by those who are responsible for its increase, and it is natural that limitation should be left to their entire discretion. In all civilised societies the range of personal morality is enormous, within the same social class may be found representatives of the highest purity, and of the most debased indulgence. The civil government, in proportion as it is freed from superstition, gives larger scope to individual choice in private affairs, and confines itself to the encouragement of useful and the punishment of injurious actions.

It cannot be doubted that the pressure of economic need, is opposed by the innate forces of the reproductive instinct to a very different extent in different individuals. According as this instinct is well or ill adapted to resist the temptations of the existing social conditions, — according to the temperament of the individual, including in that term his capacity for sincere religious conviction, — will be the extent to which, on the average, that temperament will be represented in future generations. We may infer that, according to the principles of Evolution by Natural Selection, the progress of civilisation has been marked by a gradual strengthening and perfection of the reproductive instincts; that the primal sexual desire, is in turn fortified by parental love, by a tender solicitude for the new-born and even the unborn child, and by a vigorous repudiation of the unproductive methods

*If reproduction is checked for the sake of  
the welfare of children, the selection  
is also eliminating the unselfish <sup>quality</sup> instinct,  
which strengthens more selfish desire.  
sexual*

of satisfying the needs of passion and of intimacy. The information available of early civilisations, though in some cases scanty, strongly corroborates this belief, and though the evidence cannot here be presented in full, the following points will serve to show the general tenor<sup>our</sup> of a more extended inquiry.

(1) 1. The religion of all peoples long established civilised condemns infanticide. This is true of China and India, as well as of Christian and Mahometan countries.

(2) 2. In our Western civilisation the religions which show the highest birth rate are those characteristic of the most anciently civilised peoples. We have seen from the maternity statistics of Rhode Island, and the observation is widely confirmed in other countries, that within each subdivision of society, the Jews show the greatest, the Roman Catholics next, and the Protestants the least fertility. The majority of Protestants come from North European countries, which have been civilised since the Christian Era, the Catholics from Mediterranean countries have experienced perhaps another thousand years of civilisation, while the Jews have outlived the age of Egypt and Assyria, the most ancient civilisations of which we have records.

is it true now in France.

3. The reform of morality in the Roman Empire which accompanied the establishment of Christianity drew its strength from the consciences of the people, not from the teaching of the Gospels. The remarkable intensity with which the Fathers of the Church denounced the exposure of new born infants, and the practice of abortion, though comprehensible to the modern

(1) - It the feeling against infanticide has been gradually strengthened, how is it with animals it is almost unknown?

(2) Do not these statistics show that there 3 classes are also differentiated by wealth? in such a way as to in a measure anyhow account for this difference?



conscience, excites surprise when we consider the theological basis upon which this doctrine was avowedly supported. That the child who died unbaptised, whether born or unborn, was condemned to eternal damnation, is a belief which cannot have originated in the Gospels, nor can it be supported from this source! The true proof of the wickedness of exposure and abortion, lay in the consciences of the people, who were descended <sup>for</sup> through many generations through ages in which these practices had exerted their selective influence. In several notable examples an advanced appreciation of the responsibilities of sexual passion, had been displayed to and admired by the pagan world. Seneca gives special praise

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1. It might be imagined that the mildness and humanity of the teaching of Jesus was an indirect cause of this change of opinion. The cruelty of the punishments inflicted upon the unfortunate mother decisively refute this possibility. The Christian Emperor Valentinian I made infanticide a capital offence. The remarkable ~~sta~~ statute of Constantine against illicit unions indicates the true temper of the reformers. "The successful ravisher was punished with death: and as if simple death were inadequate to the enormity of his guilt, he was either burnt alive, or torn in pieces by wild beasts in the amphitheatre. The virgin's <sup>a</sup> declaration that she had been carried away with her own consent, instead of saving her lover, exposed her to share his fate. The slaves whether male or female, who were convicted of having been accessory to the rape or seduction, were burnt alive, or put to death by the ingenious torture of pouring down their throats a quantity of melted lead." Gibbon. 14. 176.

to his mother Helvia who never destroyed her expected child within her womb: Zenobia whose high ambition exceeded the virtues of both sexes, was not content with her manly honours in war, hunting and sovereignty, but ~~also~~ "never admitted her husband's embraces but for the sake of posterity. If her hopes were baffled, in the ensuing month she reiterated the experiment."<sup>2</sup> The jurist Julius Paulus considered the exposure of ~~ch~~ children as morally equivalent to murder, and expresses strong

<sup>1</sup> Seneca Of Consolation <sup>to</sup> ~~to~~ <sup>1</sup> Helvia. 16. ~~Seneca.~~

Impudicitie, one of the moste greatest evils that reigns in our time, hath not entangled thee amongst diverse others: ~~pearl~~ pearles and precious stones have not tempted thee: riches, which are esteemed the greatest good in this world, have not be bewith<sup>ch</sup>ed thine eyes, the dangerous examples wherewith the ~~wicked~~ <sup>wicked</sup> ~~wicked~~ <sup>on sort</sup> ~~wicked~~ seduce the best, have not distracted thee: thou ~~that~~ <sup>that</sup> hast been well brought up in a Noble and well ordered Family, art not ashamed to have beene fertile, and the mother of divers children, as if thou wert upbraided thereby that thou art old. Never hast thou, according to the custom of divers other women, which desire nothing more ~~thas~~ <sup>thas</sup> to be considered beautiful, hidden thy grosseness, as if it had been an unfitting burthen, neyther hast thou made away the fruit of thy wombe which thou thoughtest thou hadst received. Thou hast never painted thyselfe nor taken any pleasure to weare such garments as might discover thy naked skin. Modestie is the only ornament which thou hast esteemed to be most fitting, most seemely, and such as cannot be indemnified by age.

<sup>2</sup> Gibbon 11.124.



disapproval of the practice of abortion. These examples show, not by their existence, but by their honourable publicity, how far the popular conscience of the pagan Romans had already advanced towards the purer morality, which it was the privilege of the early Church to confirm with Divine <sup>sa</sup> sanction.

It would take a lot to prove this.

4. The methods of deliberate limitation have been in their origin commended or approved, and have fallen into disrepute in proportion to their antiquity and effectiveness. We have seen that infanticide is enforced in the public interest by many savage tribes. Feticide, and failing that infanticide, were enjoined by so moral a teacher as Plato, to prevent the undue increase of population. Prostitution was customary amongst the Babylonians, and was widely sanctioned in ancient times by the worship of <sup>Myrrha, Anaktis and</sup> Aphrodite, ~~and similar deities.~~ <sup>et</sup> Pederasty played such an important part among the Greeks, that a great part of Plato's works are devoted to the purification and ennobling of this institution. The adoption of contraceptive devices has been advocated in modern times in the most altruistic spirit, but its selective action has not yet been sufficiently prolonged to produce among Protestant peoples that decisive moral and religious condemnation, which has fallen to the lot of its predecessors.

To these four considerations, which point to a genuine evolution of the human conscience in respect of reproduction, we may add the analogies afforded by the reproductive <sup>sk</sup> instincts of animals, and by the evidence of immunity against disease.

Animals of different species are not only provided with the primary impulse of sex, but impelled by secondary instincts to protect and provide for their young: since these

instincts differ according to the habits and situation of different species their development may safely be ascribed to natural selection. In the majority of birds the female, and sometimes also the male undertake the duty of incubation. Many species of animals and birds of a most timorous nature show astonishing courage in the defence of their young. No one can fail to observe the serious anxiety which is felt by a sow in the presence of her litter. For the support of their young mammals are provided not only with milk glands, but with positive pleasure in giving suck, even when the mother is suffering considerable privation. We can readily understand how in these and other ways, the reproductive instincts of animals have been strengthened and perfected by natural selection, since the number of offspring would be diminished if the instincts for incubation and suckling were imperfect. That the instinct is lost when it is no longer advantageous is shown by the example of the cuckoo.

The evolution of <sup>u</sup> ~~an~~ <sup>ma</sup> ~~an~~ kind against disease which has been explained with such convincing facts and conclusive reasoning by Dr Archdall Reid,<sup>1</sup> is strongly analogous to the argument set forth in the present chapter. Reasoning from the causes of death, as I have done from the causes of reproduction, this acute and <sup>po</sup> ~~e~~ <sup>powerful</sup> writer has shown that the races of mankind have gained immunity to various diseases

<sup>1</sup>The Laws of Heredity. 13. C. Archdall Reid.



*at*

in proportion to their racial experience of them. Diseases such as measles which afflict new peoples, such as the American Indians and the Polynesians with devastating severity, are relatively harmless to civilised races who usually become immune to their onset after a single attack. This power of acquiring immunity is the result of natural selection exerted by the disease in past ages. *Similarly* ~~In the same way~~ the peoples of Europe and Southern Asia are to a great extent protected by nature from the fatal results of tuberculosis, which still is responsible for a large proportion of deaths, but is far more deadly to uncivilised peoples, whose ancestors have not been exposed to its ravages. It does not seem extravagant to compare a practice such as abortion to a disease: it exerts a definite elimination: its action is selective: and peoples among whom it was formerly prevalent now regard it with abhorrence. In this connection it is proper to mention that the selective effect of those diseases, which are propagated by sexual

intercourse, upon the human conscience <sup>may</sup> ~~may~~ have been considerable:

*The elimination of those temperaments most strongly inclined to prostitution, to infidelity, and even perhaps to polygamy, must be partly credited to the mortality due to syphilis, and the with instead of nullifying marriage, might have retained sterility, so often occasioned by gonorrhoea.*

~~It is not impossible that the vices which mainly compete with some part of their hold upon civilised societies, were it not for the deadly effect of syphilis and gonorrhoea.~~

From the considerations set forth in this chapter, it would seem reasonable to conclude, 1., that the mental and moral qualities of mankind are heritable in the same degree as are physical qualities: 2., that differences of temperament affect reproduction by rendering marriage more probable, or probably earlier, and by inducing or restraining the individual from <sup>using</sup> ~~the use~~ of whatever means of artificial limitation are at the time in use: 3., the probable

assumption that innate disposition plays a part in the adoption of these practices is confirmed by the evolution of moral instinct <sup>sentiment</sup> *in civilised communities, regarding all those means which have been anciently practised.*

CHAPTER THREE.

We have seen in the first chapter that among civilised peoples, both in modern and ancient times, an anomalous condition has come into existence, in which the upper social classes, whom we would naturally compare to the successful and well adapted of an animal species, reproduce their kind more slowly than the socially lower classes.

In the second chapter we have seen reason to conclude that the innate and heritable disposition has in civilised peoples an influence upon the rate of reproduction. It is now proposed to show that a logical connection exists between these two <sup>conclusions</sup>. It is not denied that what may be called the accidents of history have from time to time determined the social position of various types of men, and have influenced the fertility of different classes. The wide spread nature of the phenomenon of the differential birth rate, existing in great bodies of people, in different nations, and reappearing after long intervals of time, is not however to be explained by historical accidents. No explanation of it can be accepted, which does not flow from agencies in almost universal operation, among civilised societies of the most various types.

In considering the generally acknowledged fact that the families of great men tend with unusual frequency to die out, Francis Galton states reasons for believing that the Hereditary Genius. pp. 123-133.



Judges of England as a group must themselves have been extremely prolific. Of 31 peerages received by them, however, twelve are now extinct. Galton therefore examined the family history of these 31 peerages and discovered an explanation which he rightly describes as "simple, adequate and novel." A considerable proportion of the new peers, and of their sons married heiresses. "But my statistical lists showed, with unmistakable emphasis, that these marriages are peculiarly unprolific. We might, indeed, have expected that an heiress, who is the sole issue of a marriage, would not be so fertile as a woman who has many brothers and sisters. Comparative infertility must be hereditary in the same way as other physical attributes and I am assured that it is so in the case of domestic animals. Consequently the issue of a peer's marriage with an heiress frequently fails and his title is brought to an end. After ~~the~~ giving the individual histories of these families he arrives at the following results:

1. That out of 31 peerages, there were no less than 17 in which the hereditary influence of an heiress or co-heiress affected the first or second generation. That this ~~agent~~ influence was sensibly an agent producing sterility in 16 out of these 17 peerages, and the influence was sometimes shown in two, three or more cases in one peerage.
2. That the direct male lines in no less than 8 peerages were actually extinguished through the influence of the heiresses,

+ Galton gives the names in full.

and that 8 others had very narrow escapes from extinction,  
 owing to the same cause. I literally have only one case, where  
 the race destroying influence of heiress blood was not felt.

3. That out of the 12 peerages that have failed in the  
 direct male line, no less than 8 failures are accounted for by  
 heiress marriages.

Now what of the four that remain. Lords  
 Somers and Thurlow both died unmarried. Lord Alvanley had  
 only two sons of whom one died unmarried. There is only his  
 case and that of the Earl of Mansfield, out of the ten who  
 married and whose titles have since become extinct, where the  
 extinction may not be accounted for by heiress marriages. No  
 one can therefore maintain, with any show of reason, that there are  
 grounds for imputing exceptional sterility to the race of judges.  
 The facts when carefully analysed, point very strongly in the opposite  
 direction. After drawing similar conclusions from other  
 groups of peers Galton continues, "I tried the question from  
 another side, by taking the marriages of the last peers,  
 and comparing the numbers of the children when the mother was  
 an heiress with those when she was not. I took precautions to  
 exclude from the latter all cases where the mother was a  
 coheiress, or the father an only son. Also since heiresses are

+ see page 35



not so very common, I sometimes went back two or three generations for an instance of an heiress marriage. In this way I took fifty cases of each. I give them below, having first doubled the actual results, in order to turn them into percentages.

Number of sons to each marriage	Number of cases in which the mother was an heiress	Number of cases in which the mother was not an heiress
0	22	2
1	16	10
2	22	14
3	22	34
4	10	20
5	6	8
6	2	8
7	0	4

" I find that among the wives of peers

100 who are heiresses have 208 sons and 206 daughters,  
100 who are not heiresses have 336 sons and 284 daughters. "

The following important paragraphs may also be quoted as showing the weight which Galton attached to this principle.

" Every advancement in dignity is a fresh inducement to the introduction of another heiress into the family. Consequently, Dukes have a greater impregnation of heiress blood than Earls, and Dukedoms might be expected to be more frequently extinguished than Earldoms, and Earldoms to be more apt to go than Baronies.

A more complete study of British peerage statistics upon this point has been made by Pearson and others. Phil. Trans. A. Vol. 112. 1899.

From the tables there shown it is clear that the average number of children born to any woman increases steadily with the number of the siblings to which she belongs.

Experience shows this to be most decidedly the case. <sup>Mr</sup>  
 his preface to the Extinct Peerages Sir Bernard Burke  
 states that all the English Dukedoms created from the  
 commencement of the order down to the commencement of the  
 reign of Charles <sup>II</sup>~~II~~ are gone, excepting 3 that are merged in  
 Royalty, and that only 11 Earldoms remain out of the many  
 created by the Normans, Plantagenets and Tudors."

" It is with much satisfaction that I have traced and,  
 I hope finally disposed of, the cause why families are apt  
 to become extinct in proportion to their dignity— chiefly so, on  
 account of my desire to show that able races are not  
 necessarily sterile, and secondarily because it may put an end  
 to the wild and ludicrous hypotheses that are frequently started  
 to account for their extinction. "

Alphonse de Candolle after <sup>noting</sup> ~~noting~~ these remarkable  
 researches, and properly distinguishing between the extinction  
 of the <sup>f</sup>amily and that of the male line, reasonably observes that ~~in~~  
 similar conclusions must apply to the rich and affluent classes  
 in general.

" La difference de fécondité des héritières et non-  
 héritières anglaises est si grande qu'elle avertit d'une cause,  
 jusqu'à présent inconnue, du petit nombre des naissances  
 dans les familles aisées ou riches, de la noblesse et de la  
 bourgeoisie. En général, les filles riches se marient aisément  
 et selon toutes les probabilités physiologiques, confirmées  
 par les faits que Monsieur Galton a découverts, se sont elles  
 qui ont la plus petite chance de laisser des <sup>descendants.</sup> ~~descendants.~~ Leurs



proportion doit ~~de~~<sup>ne</sup> diminuer l'augmentation de population des classes qui vivent dans l'aisance."

Unfortunately M. de Candolle associates this rational explanation of the relative infertility of the upper classes with others such as that of Herbert Spencer, which evidently belong to the category to which Galton had hoped to put an end. Nor is it quite clear that he had grasped the point of Galton's argument, which is not so much that heiresses can marry easily, but that they may reasonably aim at a marriage which is socially advantageous, and so are liable to mingle their tendencies to sterility with the natural abilities of exceptionally able men.

In a brief but important note contributed to the Eugenics Review ~~Jan. 1913~~ J.A. Cobb has given reasons for believing that the case of heiresses, observed by Galton, is but a particular instance of a far more general tendency. Restricting himself to the unconscious causes of relative infertility, Mr Cobb points out that just as the fortune of an heiress enables her to make a socially advantageous marriage, so among the children of parents of any one class, members of the smaller families will on the ~~whole~~ average commence life at a social advantage compared to members of larger families. Alongside the many excellent qualities which enable a family to improve its social position, relative infertility also

Eugenics Review. Jan. 1913.

"Eugenists agree that the rising generation is largely

recruited from the less fit. This is attributed partly to the fact that the upper classes marry later and partly to the fact that apart from the question of postponement of marriage the upper classes are less prolific than the lower.

"There can be no doubt that at the present time the smaller fertility of the upper classes is almost entirely due to artificial limitation, but there is another cause of their smaller fertility, and it is to this that I wish to direct attention. It is important for the Eugenicist to know to what cause he is to attribute this smaller fertility of the upper classes: if it is entirely due to artificial limitation, which is a merely temporary fashion, the consequences are not likely to be very serious, since the fashion for limiting the family is likely to take the usual course and spread downwards in the community, eventually equalising the fertility of all ranks of society: or the fashion may die out altogether when its disastrous effect on the future of the race is perceived. It seems also possible that the advantage of limiting the family will appeal more to the poor man than to the rich, for an additional child is a greater burden to the poor, and perhaps eventually the artificial limitation of families will have a beneficial effect on the race by reducing the size of the families of the less efficient.

"If, however, as I shall try to show, there is a natural tendency under modern conditions for the more intelligent to become less fertile, the problem is a more serious one.

"If variations in fertility are inherited and the wealthier classes have for generations been put through a process of selection by which members of small families have been given an advantage over members of large families, we should expect that the wealthier



plays its part. In this way the less fertile stocks having the social advantage, will gradually permeate the upper classes of society, and there cause the peculiar situation in which the more fortunate and successful of mankind have the smallest birthrate.

That the economic situation in modern societies is such as favours the rise of the less fertile is clear from a number of considerations. In the wealthiest class, the inherited property is for the most part divided among the natural heirs, and the wealth of the child is inversely proportioned to the number of the family to which he belongs. In the middle class the effect of direct inheritance of wealth is also important; but the anxiety of the parent of a large family is increased by the expense of a first class education, of professional training, and of the need for capital in entering the professions to the best advantage. At a lower economic level social status depends less upon actually inherited capital than upon expenditure upon housing, education, amusements and dress; while the savings of the poor are depleted or exhausted, and their prospects of economic progress correspondingly diminished, by the necessity of sufficient food and clothing for their children. These obvious economic truths are corroborated by the arguments upon which the limitation of families is advocated; of these by far the most weighty is the imperative importance of giving to one's children the best possible start in life, and the consequent necessity both of savings, and of expenditure.

classes would, as a whole, be less fertile than the poorer classes."

" There must be some general cause which prevents the average intelligence in a civilised community from advancing beyond a certain point. This cause seems to me to be the grading of society according to a standard of wealth. This puts in the same class the children of comparatively infertile parents and the men of ability, and their intermarriage has the result of uniting sterility and ability."

The considerations put forward in the second chapter suggest that the influence of hereditary temperament is by no means confined to the unconscious causes of infertility, and this conclusion greatly extends the scope of the influences at work. If those who practise neo-Malthusian methods do on the whole succeed in giving their children a better start in life, then the temperament to which these practices are not wholly objectionable will be found sooner or later more commonly in the upper than in the lower classes; the use of these methods will be in consequence more frequent among the wealthy, and these will show the lower birth rate. Some of the implications of this state of affairs have been mentioned in the first chapter; it will here be necessary to inquire with more exactitude, into the stages by which, on this theory, it is actually brought into existence.

In applying this principle to any particular civilisation or society it is important to ascertain:

1. to what extent its primitive organisation has favoured the rise of the most able types of men into its upper social classes; and to what extent, and in what respects, the superiority of these classes has been maintained throughout its growth and development. If we find that the primitive organisation has favoured the rise of the most enterprising and energetic, the most healthy and the most beautiful, the most courageous and the most far seeing, we must conclude that the primitive aristocracy was more richly gifted with these qualities than the people they ruled. If in later times the social selection has favoured in addition, intellectual and artistic



brilliance, industry, perseverance and business capacity, then these also must have become <sup>relatively more common</sup> concentrated in the upper ranks of society, and combined by intermarriage with those previously predominant. In general it must be considered unlikely that any society should achieve greatness unless its ruling classes had been endowed and with the sense of honourable responsibility and social obligation with a high level of ability, in framing the laws and institutions by which its future progress is <sup>di</sup> conditioned.

2. It is further necessary to ascertain to what extent in different <sup>historical</sup> ages members of large families <sup>were in fact</sup> are at a social disadvantage. We have seen that in modern societies this disadvantage is essentially economic; so that we may enquire in detail to what extent economic advantage carried with it the possibility of intermarriage with a social class superior to that of the parents. In different stages of the progress and decline of a civilisation the possession of wealth is likely to be of very different importance in determining social status. Yet it is normal for the most powerful classes to be, in fact, the wealthiest; the continued possession of wealth by any family will generally obtain for it in time some social advantages. In later stages of society the gradual diminution of the numbers of the upper classes, will provide ready access for the wealthy of humble origin to the highest positions of influence and power. From the economic disadvantage of large families, and the social advantage of wealth, it follows that the upper classes become gradually imbued with the mental and moral qualities of temperament which tend to a lower fertility.

Not quite clear  
ages' access to property to children

3. At a certain stage in history we may anticipate that the natural advantages of the upper classes will be outweighed by the natural infertility with which they have become imbued, and the rates of reproduction will be inverted as in modern nations, <sup>and</sup> ~~and~~ in the later stages of the <sup>ae</sup>Greco-Roman civilisation. Up to that stage not only national but <sup>racial</sup> ~~social~~ progress may have been accomplished. From that stage onwards the inherent greatness of the people must insensibly decay. Nevertheless the accumulated capital of lofty ideals, of intellectual achievement, and of civil organisation, may at this stage be at its height; and material progress, for a time unchecked, may continue beyond the dreams of those who laid its foundations. We have seen however, that the continual need of recruitment from the lower classes, not only diminishes the average ability of the latter, but <sup>accentuates</sup> ~~accumulates~~ the causes which are tending to produce infertility among the rulers. The stream will grow more and more rapid. The depletion of ability will show itself, first in its superfluous, and at last in its necessary applications, and the material fabric of civilisation will itself crumble to ruin.

The death of heroes, and the ruin of noble families have been the chosen subjects of the greatest of poems and tragedies. It is outside the plan of this book, as it is beyond my capacity, worthily to represent the emotional significance of



the silent and imperceptible extinction, which appears to be the fate among civilised peoples, of all that makes for heroism and nobility. The work of the scientific faculties is merely to ascertain the natural sequence of events; knowing this, the individual, or the society, <sup>provided it</sup> ~~which~~ possesses sufficient unity of purpose, may confidently set out to obtain those ends which are judged desirable. The discrimination which guides our purposes, by which we judge what paths are to be sought, and what to be avoided, must be ascribed rather to the artistic <sup>I say moral</sup> ~~and moral~~ than to the scientific faculties. It is open to the modern man to dissent from the judgment of ancient poets who have celebrated the prowess and magnanimity of their heroes; science does not judge such questions; the silent poet in the heart of every man can alone decide which types of men are the worthiest to live.

We have seen that by the <sup>ac</sup> ~~action~~ of natural causes civilisations of a certain type are led, not to ever increasing extensions of power and <sup>prosperity</sup> ~~property~~, or to the developement of the unlimited possibilities of ~~human~~ excellence, but to an internal decline in all those qualities which rise into the upper classes of society, and which in the opinion of that society are presumably the most admirable qualities of human nature. The fact of the decline of past civilisations is the most patent in history, and we cannot overlook the fact that in our modern civilisation, which is perhaps about to pervade the <sup>entire</sup> ~~whole~~ globe, the causes to which degeneration have been traced are particularly evident. The importance of assigning the decay of past

civilisations to its true causes, has been recognised by many historians: many speculative theories have been put forward as to the hidden causes of this formidable fact. Before proceeding further it will be well to consider what elements of truth these suggestions may contain.

The details which are accessible to students of decline in Greece and Rome have led to a general agreement that the decay of this great civilisation was due to the gradual attenuation and extinction of the original aristocracies. The rapid replacement which was taking place in the upper classes, even during the height of their glory, led to political instability: the new rulers neither possessed the character, nor were animated by the principles, of their illustrious predecessors; but stability was never regained. Each generation of rulers was more transient than the last, and seemed to be battling with more formidable internal difficulties. It is to the cause of this attenuation of the ruling classes that the more philosophic of historians have addressed themselves.

The Comte de Gobineau, to whose profound and energetic intelligence the decline of civilisations presented itself as the greatest of human problems, believed that the disappearance of the original aristocracies was universally due to race mixture: others have not hesitated to ascribe the infertility of the upper classes to inbreeding. It would be interesting to compare the evidence and reasoning in favour of these two contradictory explanations, were they at all of equal weight or



value. whereas, however, Gobineau, who was a devoted student of  
ancient history, produces masses of concordant evidence to prove that  
the diminution of the ruling classes has in fact been accompanied  
by extensive race and class mixture, the supporters of the theory  
of degeneration by inbreeding appear to ignore, alike the facts  
of human life, and the limitations of the physiological theory  
upon which they rely.

It is far from certain that among genetically sound  
stocks of animals, the closest possible inbreeding, however prolonged,  
necessarily produces any diminution in size, vigour or fertility.

It is improbable that the apparent evil effects of inbreeding are  
confined to revealing latent defects, which continual out-crossing  
is able to conceal. Indeed the artificial maintenance of the  
heterozygous or crossbred condition has been reasonably suggested  
as the means by which harmful and lethal factors may creep into  
and accumulate in the stock. It is open to serious doubt, if not to  
actual disproof, that the members of relatively exclusive  
aristocracies, are more closely inbred than village communities,  
and the inhabitants of small islands, who show no signs of  
infertility. It is certain that in particular instances, that of  
the Pharaohs and possibly the people of Egypt, the closest inbreeding  
has been practised without any apparent evil effect.

<sup>1</sup> Le Comte de Gobineau. Essai sur l'Inegalite des Races Humaines.

<sup>2</sup> Although some plants are habitually self-fertilised, many show by special adaptations for cross-fertilisation that the latter method is advantageous; this has been proved experimentally for certain species. H. Goddard. The Biology of Flowers  
Journal of Modern Science pp 401-423

<sup>3</sup> In a recent experiment white rats inbred closely and consecutively for many generations showed no signs of ~~degeneration~~ or sterility.

<sup>4</sup> Muller. Genetics. 1918.

<sup>5</sup> Professor Adams Woods has shown statistically that the most inbred Royal families have suffered no disadvantage. Heredity in Royalty

<sup>6</sup> J.G. Fraser. The Golden Bough. Part 4. Adonis, Attis and Osiris, p 396.

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That Gobineau, who had made himself familiar with the awful fact of the decline of so many civilisations, should never have been able to accept Darwin's theory of Natural Selection, which seemed at the time to necessitate the automatic improvement of the human, as of animal species, is not altogether unnatural. It is none the less unfortunate that a man so supremely able to grasp the greater truths of human history, should have been cut off from the great revelation, which his age experienced, of the causes which determine the progress of terrestrial life. There is, however, nothing in Gobineau's theory of the effects of race mixture, which could be disproved by the science of his time; if the progress of our knowledge of heredity has rendered his views unlikely, they would still have strong claims to acceptance, were they the only available explanation of the historical facts.

If we regard the hereditary differences of mankind as made up of a large number of separately heritable characters factors, the general consequences of race mixture may be predicted, although our ignorance of the particular factors of human heredity renders particular applications at present impossible. If such races and their descendants intermarry freely, the factors which are inherited independantly will be recombined at random. The descendants will in general resemble

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R.A.Fisher. Correlation between relatives on the supposition of  
Trans.  
Mendelian inheritance. Roy.Soc.Edin.Vol.52.Part 2. No.15.



one race in respect of some factors, the other in respect of others: their general character will therefore be intermediate, but their variability will be greater than that of the original races. New combinations of virtue and ability, and of their opposites, will appear in the mixed race, combinations which are not <sup>e</sup>hetrozygous, but are inherited like those of a pure race. There are thus in the mixed race great possibilities for the action of selection: if selection is beneficent, and the better types have the greater number of descendants, the ultimate effect of mixture may be the production of a race, superior to either of those from which it sprang, by combining the advantages of both. Selection unfavourable to the highest types, will, on the other hand, be more disastrous to a mixed race, than to its progenitors. It must, however, be remembered that all existing races are probably very mixed in respect of hereditary factors: so that selection is capable of producing rapid changes without the aid of further race mixture.

It does not seem unreasonable to conjecture that within each of the great divisions of mankind, internal adaptations or adjustments, between the different faculties of the mind and body, have been established during the long ages of selection under which these races were originally formed. In such

cases the rearrangement of factors would disturb this internal harmony, and might give rise to very serious disadvantages.

The theory of Gobineau depends upon the effect of intermixture of a ruling aristocracy, which Gobineau invariably traces to the white European stock, and to whose merits the progress and stability of our civilisation are <sup>ascribed</sup> ~~due~~, with a mixed and coloured people inhabiting one of the great and ancient centres of population, such as China Proper, or the Valleys of the Ganges, the Euphrates or the Nile. The historical importance of such cases cannot be doubted: and it is in all respects probable that, as intermixture progressed, the ruling class, in the absence of selection, would entirely change its character; the qualities by which it had been distinguished would be diffused among those of the <sup>to which is this?</sup> ~~numerically superior race,~~ and in the absence of native <sup>more numerous nations,</sup> ability, could no longer achieve the great results, for which, concentrated in a ruling class, they were originally responsible. Nevertheless, granting that the process of racial diffusion sets a ~~cert~~ certain term to any civilisation which depends upon the virtues of an ~~alien aristocracy~~ minority, it remains to be explained why great civilisations should be <sup>assumed</sup> ~~presumed~~ always to rest upon so precarious a foundation. If the peoples of the world's great centres of ancient population are inherently incapable of producing of themselves a great and vigorous civilisation, an explanation of so remarkable a fact is certainly required.

Lapouge. Les Selections Sociales. pp.178 186.

*I don't quite follow this argument. Rome might have been an infiltration of aliens in all classes.*



We cannot reasonably be satisfied by accepting it as an accident, that the great civilising races should have originally occupied only those regions of the earth, where civilisation was for so long unknown.

*the latter types in the rest of the world as a whole or of?*

It has been suggested that the disappearance of ~~the~~ <sup>why of foreign origin?</sup> ruling races of foreign origin in ancient civilisations was due to the selective influence of the climate. This theory stands in the same position as that of race mixture, in respect of the main criticism to which the latter is exposed. It does not explain why the foreign element should be necessary. As far as it goes it would seem to be a thoroughly acceptable explanation. Races exposed to a new climate and to unfamiliar diseases are certainly in some cases at a disadvantage as regards their death rate, and probably <sup>also</sup> as regards their birth rate. An enlightening instance is given by Archdall Reid of the African negroes who are particularly susceptible from very ancient times to tuberculosis. Negro slaves have been imported in large numbers into the countries of the Mediterranean and Southern Asia. The invasion of Asia has continued to our own day: but notwithstanding the great antiquity and volume of the stream, one may search from Spain to the Malay Peninsular, and, except in recent importations, find no trace of a negro ancestry. Yet slaves like cattle are valuable property, more cheaply bred than imported.

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G. Archdall Reid. The Laws of Heredity. p 265.

In Eastern countries they have often been kindly treated, and many have achieved wealth and <sup>po</sup>power. Yet they all perished in a few generations, the elimination of the unfit being so stringent as to cause extinction, not evolution. A permanent colony of native Africans in the midst of an ancient tuberculosis-infected civilisation is impossible.

In one respect the theory of selection by climate and disease appears to possess an advantage over that of race mixture. If the latter were the only agency at work the disappearance of the ruling class would be accompanied by a permanent improvement of the natives. The effect of successive conquests should accumulate, so that we should expect that a people such as the Egyptians should be reasonably far advanced towards the type of a ruling race. The reverse appears to be the case. The effect of the selective influence of climate and disease, on the other hand, would appear to undo completely the racial benefits of a invasion. Further consideration shows that *these two agencies acting together* a combination of the two agencies would lead to an intermediate result, for in the distribution of the hereditary factors, immunity to local diseases would often be combined with the qualities of the immigrants. This consideration suggests that in the absence of selection directed against the ruling race as such, some permanent improvement of the native population is to be expected. On the other hand beneficial selection combined with race mixture would lead to the formation of a race combining the condition of acclimatisation with the valuable qualities of the invaders.



It would seem then, from the history of ancient civilisations in the East, that the rate of reproduction has never permanently favoured the ruling classes. If we consider further that in any ordered society the burden of increasing population is likely to fall upon the parents, and that the possession of wealth is likely sooner or later to be a social advantage, it is possible to offer a rational explanation not only of the disappearance of ruling classes of foreign origin, but of the absence of the necessary types of ability from the indigenous population.

It would seem not improbable on this view that the civilisation was indigenous, favoured by the natural causes which admit of a dense population; that the most capable elements of this primitive civilisation found their way sooner or later into the upper classes, that they were slowly imbued with those factors of heritable disposition which make for a reduced prolificacy; and that they were, by a rapidly increasing process, eliminated from the race. Their territory, dowered with immense natural resources, and destitute of a vigorous and united government, became the natural prey of a succession of invaders. Once it is apparent that natural causes sufficiently explain the attenuation of the original rulers, the disappearance of aristocracies of foreign origin raises no new problem. The same agencies which destroyed the founders of a civilisation are capable of destroying

their successors; the more easily if the unfavourable action of selection were furthered by race mixture and the influence of climate.

The belief that the mere existence of civilised conditions causes degeneracy among the races which experience it, has been held by many writers, and is strongly supported by the instances of barbarous territories which have received the civilisation, and shared the decay, of some more advanced state. The people of Roman Gaul and Britain <sup>originally hardy and warlike,</sup> were, during the decay of Roman power, ~~no~~ <sup>scarcely</sup> more capable of supporting and safeguarding their civilisation than were the Romans; they fell a natural prey to inferior numbers of warlike barbarians, without suffering from a foreign climate, or from intermixture with an inferior race. No satisfactory explanation of the manner in which civilisation produces this deleterious effect, has been put forward before the publication of Cobd's theory. It has been suggested that habituation to the easier life of civilised people is capable of unfitting a race for the hardships of war; that luxury saps the vigour, and dependance the initiative, of a civilised people. These effects may indeed be observable in many, but certainly not in all individuals; but that habits and environmental conditions produce any effect upon the race is a belief upon which the present state of knowledge of heredity forbids us to rely. It may be that in <sup>al</sup> exception cases small and indefinite effects are produced upon the germ plasm, but we have assuredly no knowledge of any cause other than selection, which is capable of changing the character of a race.

4 India would become a prey to foreign ~~persons~~ invaders if we left. Do we know that the ancient Britons were more civilized by Rome than the Indians are by Britain?



The conditions to which the degeneration of civilised peoples has been here ascribed will seem to some of so universal and necessary a nature, that it will be asked whether barbarous peoples also are not exposed to unfavourable selection from the same causes. An enquiry into the relation of fertility to social status among uncivilised peoples is the more incumbent upon us since the continued existence and improvement of our own civilisation depends upon the establishment of the higher birth rate among the upper classes, a condition which appears to have existed in certain <sup>uncivilised</sup> uncivilised or incompletely <sup>and civilised</sup> civilised peoples.

If the argument of Malthus in his great Essay on Population be examined closely it will be seen that war as a means by which population is limited is treated by that author with some embarrassment. His general thesis was that the means by which population <sup>is</sup> ~~was~~ limited might be classed in the two categories of Vice and Misery, ~~But it is not clear in which of these two classes~~ and he advocated <sup>↑</sup>prudential restraint as the only means of saving mankind from these two evils. But it is not clear in which of these two classes war should be placed: among warlike peoples the hardships of war are not shunned, and so far is the warrior from suffering discredit, that he attains by his exploits the highest honours and dignity. Nor is it

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Malthus. Essay on Population. Book 1. Chap.4. p 30.

obvious that savage war entails any material disadvantages, at least to the victors. Among hostile tribes, such as the North American Indians, as Malthus was forced to admit, the more populous tribes might be by no means the most unfortunate. Success in war availed to supply the necessary increase of the means of subsistence. The same objection to the proposals of Malthus has prevailed in Modern Europe: the international status of modern nations, like the power of savage tribes, is based upon population; no great nation has dared to encourage depopulation for the sake of economic advantage; while the policy of the Germans, like that of the Romans, <sup>is</sup> ~~was~~ to encourage population as a means to conquest.

In great States there is thus a conflict between the interests of the State and the individual, the former requiring that a strong population should be maintained, the latter unwilling to bear the economic burden of a numerous family. The smaller ~~is~~ the social unit which ~~is~~ capable of independant military action, the more nearly are these interests reconciled. In a community in which the military and economic units are identical, the conflict disappears.

In the tribal condition, the limitation of offspring may not be even an economic advantage: occasionally, in times of peace or of dearth, it may appear to be so, but in the long run it is not unlikely that those who yield least readily to the temptation may ~~reach~~ reap the gr~~e~~atest benefits. It is fortunate that we are able to verify this surmise, by a consideration of the



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social institutions of that section of the typical peoples of Europe, which has most recently been absorbed into our modern civilisation.

The Icelanders evidently belonged to the long-headed stock of Northern Europe: this people is invariably described by Southern historians as remarkably tall and blond, but it is improbable that they differed greatly in these respects from the native upper classes in modern England and Scandinavia. The achievements of which this race is capable are well shown by the ~~hist~~ history of the European peoples, notably in France and England, which it rejuvenated after the decay of the Roman power.

It is not too much to say that for the material prosperity as well as for the intellectual progress achieved by the modern civilisation of Europe, we are chiefly indebted to this race: the corresponding achievements in ancient times of the Sacae in India, the Cimmerians in Mesopotamia and the Achaeans in the Levant have been not unwarrentably ascribed to peoples of the same stock. Iceland was colonised from Norway during the ninth and tenth centuries, principally by refugees who refused to submit to the rule of Harold Fairhair, who had made himself King of that country. We may therefore assume that the original state of society established in Iceland was deliberately aimed at conserving the traditions of predynastic Norway. From the foundation of the colony, however, the institutions changed rapidly. In 930, before the death of Harold, a central court, the Allthing, was established for fixing the laws; 70

years later, the Allthing had become a <sup>li</sup> republican centre of government, and by its authority Christianity was established; in 1056 the Christian Church was organised under a bishop. In the twelfth century a conflict had already arisen between the civil and the ecclesiastical authorities, and within a century Iceland became a province of Denmark.

During the first three or four generations of the colony, the institutions of the Icelanders may probably be taken as typical of those of the ~~con~~<sup>long-</sup>headed Norse people to whose great qualities we owe the historical progress of Europe. This period was the heroic age of Icelandic history, and is well represented in the Sagas, or biographies, of distinguished men, which constituted the greater part of the Icelandic oral literature. In this society the economic unit was the Stead, often 50 or more men, women, and children, including besides the near kin of the owner or owners, a variable number of landless freemen, and the thralls of the family, lived under one roof. The Stead was also a military unit, the armed men turning out in a band to avenge a manslaughter, to seize disputed property, such as a stranded whale, and to enforce their claims at the local Thing, ~~or Manor Court~~, or at the Allthing. It should be noted that a greater military unit existed in the clan or godord, a group of local or related families, headed by the priest or godi, who was always a powerful chief, and who decided issues at the

<sup>1</sup> Perhaps the Hundred-Moot of the English.



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at the local Thing. These local Things had been founded arbitrarily by the principle chiefs among the first settlers: they decided local differences, but it is evident that the claim for military support was based upon kinship between the householders, rather than upon locality.

The progress of events told in the several Sagas bears abundant testimony to the social advantages enjoyed by large families. That the standard of living was higher in the larger households, may perhaps be ascribed to the country being underpopulated, since the same may be observed in Canadian farms today. The military advantage of the larger families was the decisive factor. In the occasional need of resisting an outlaw, or a troublesome neighbour, their advantage is obvious; less obvious but of greater importance, was the increased kinship which a numerous family enjoyed by intermarriage with other powerful houses. The combined strength of such related groups ordinarily decided the issue even at the Allthing. Outlawry, the payment of blood money, or the loss of a dowry, would thus fall most frequently to the lot of those with the fewest near relations. Members of large families were relatively safe in the enjoyment of their just, and even of their unjust claims.

If we may infer that in the primitive state of this European race, the social advantage lay rather with the larger than with the smaller families, it follows that those strains in which the reproductive instincts were most fully

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Tacitus. Germania. Chap. 20. "The more numerous are a man's

relatives and kinsmen, the more comfortable is his old age: nor is it here any advantage to be childless."

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developed would generally occupy a higher station than those in which these instincts were weak or incomplete; that the higher ranks of society were the more prolific, and that the general trend of the histories of individual families would be downwards in the social scale. In such a society a great number of those of moderate fortune could claim a distinguished ancestry, genealogies would be carefully remembered, and the claims of kinship would come to rank among the highest of moral obligations. We may see in the Sagas how dominant was the latter consideration in Norse society; not less striking were the complicated genealogies with which the Saga-man burdened his memory. The introduction of every considerable character is accompanied by a long line of his ancestors, often extending as far as twelve generations before the introduction of writing. The number of illustrious men in these genealogies is remarkable, and we can only explain the interest which they must have had for the listeners, by supposing that a great part of the latter were connected with the same famous stocks. From these considerations we may infer with some probability that the attenuation of the upper classes was not in progress, but that the reverse process characterised the primitive state of the Northern Europeans.

In the state of society which we are considering only the most ambitious and warlike of men could aspire to or maintain the position of leader. Ability was easily recognised



and quickly rewarded, since in a tribal conflict the activity of mind or body of a single man may turn the scale. Strength, skill, and judgment in personal conflict were undoubtedly the supreme test, but high honour was also paid to skill in the crafts such as smithying and carpentry, to knowledge of the law, and especially to the wisdom and knowledge of character which could foresee the issue of events. The qualities which gained respect were thus many and ~~noble~~ <sup>worthy</sup> it was these which filled the upper classes, and thence permeated the whole population. The man lacking in pride, courage, foresight or personal prowess, lowered his station, and could find a mate only among the meaner and less prolific strata of society.

There can be no doubt that natural selection as ordinarily interpreted,—the differential survival of those best fitted to cope with the needs of life,—has acted to the advantage of the physical, intellectual and moral qualities of mankind, in those remote prehistoric periods during which the species was gradually formed. Some such action ~~possibly~~ <sup>probably</sup> remained in the primitive societies of the Norse peoples, and has even been ~~detected~~ <sup>shown to exist</sup> among civilised peoples. When we consider however, that among the Norse, as among the Homeric Greeks, the brunt of war fell upon the small ruling class, it is likely that this class would have disappeared in barbarous conditions as surely as ~~it did~~ under civilisation, had not its numbers

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1 The intensity of Natural Selection in Man. R.S. Proc Biol Soc 85 p 472  
 Karl Pearson. Infantile Mortality. Biometrika.  
 Snow. The intensity of Natural Selection in Man. Drapers Company Research Memoirs 1911  
 Penna et al. Further evidence of Natural Selection in Man. Biometrika X pp 488-506.

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been maintained by a remarkable fertility. We should not readily ascribe the extinction of families of the Roman Senate to the "rage of tyrants" if we were to compare candidly the executions inflicted upon these, with the terrible mortality exacted by blood feuds from among the ruling classes in Iceland. When marriages are late and unproductive a few deaths may cause the extinction of a family; when, as in Iceland, men in the prime of life had already a numerous progeny, the most vindictive measures will rarely cause ~~extinction~~ extermination.

#### Summary.

At this point it may not be out of place to summarise the line of argument which has been presented. In certain types of civilisations, which possibly include all civilisations of the past and present, members of small families possess on the average an economic advantage over members of larger families, and this qualifies them for marriage into a higher social class. If any of the characteristics which tend to reduce the number of offspring are inherited, and of this there is considerable evidence, the upper classes must sooner or later exhibit these characteristics more strongly than their social inferiors, and will reproduce their kind more slowly than the latter. This state of affairs is certainly common in our modern civilisation, and we have good reason to suppose its existence in the ancient civilisation of Europe. Whenever



social conditions are such as to favour the rise of those men  
 with the highest natural endowments, and a social <sup>selection</sup> ~~condition~~ of  
 this kind would seem to be a condition of every ordered  
 society, and could not be reverse<sup>ed</sup> without intolerable injustice,—  
 these natural endowments will be gradually bred out of the race.  
 It is proposed that this process constitutes the true  
 underlying cause to which the decline of civilisations must  
 be ascribed. Barbarous peoples on the other hand, show no such  
 degeneration, but have probably made a gradual advance in the  
 highest natural qualities of mankind. In states of society  
 in which members of the larger families possess the social advantage  
 the process of decay will be exactly reverse<sup>ed</sup>, and such peoples  
 will advance, by natural causes, in precisely those qualities  
 which they most highly esteem. Such has probably been the  
 condition of the long-headed people of North Europe, before the  
 advent of civilisation; such possibly has been the primitive  
 condition of all peoples who have founded civilisations.



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14.1 Dissertations 1.23 Epictetus  
14.2 Matthew 2.16-18 Holy Bible

14.3 Holy Bible. Psalm 137. v. 9.  
14.4

(1) Exodus 1.16. and (2) 13.29.

16.1. It might be imagined that the mildness and humanity of the teaching of Jesus was an indirect cause in ~~quitting~~ of this change of opinion. The cruelty of the punishments inflicted upon the unfortunate mother, ~~is~~ decisively refutes this possibility. The Christian Emperor Valentinian I made infanticide a capital offence. The remarkable statute of Constantine against illicit unions indicates the true temper of the reformers. "The successful ravisher was punished with death; and as if simple death was inadequate to the enormity of his guilt, he was either burnt alive, or torn in pieces by wild beasts in the amphitheatre. The virgin's declaration that she had been carried away with her own consent, instead of saving her honor, exposed her to share his fate. ~~The same~~.... The slaves, whether male or female, who were convicted of having been accessory to the rape or seduction, were burnt alive, or put to death by the ingenious torture of forcing down their throats a quantity of melted lead." Gibbon

XIV. p. 175.

- 16.2. Seneca Helvia
- 16.3. Gibbon. XI. 124
- 16.4. Westmarch Vol. I. 410. Woodk

16.2. Seneca: Of Consolation to Helvia. Chap. XVI.

"Impudicitie (one of the most greatest evils that remain in our time) hath not entangled thee amongst diverse others; pearls & precious stones have not tempted thee; riches, which are esteemed the greatest good in this world, have not bewitched thine eyes, the dangerous examples where with the wicked are sought, seduce no best; have not distracted thee; thou that hast been well brought up in a noble & well ordered family, art not ashamed to have been fertile & the mother of divers children; as if thou wert upbraided thereby that thou art old. Nevertheless thou (according to the custom of divers other women, which desire nothing more than to be reputed beautiful) hidest thy grievance, as if it had been an unfitting burden, nevertheless has thou made away the print of thy womb which thou



Unghled Men hadst received. Men hadst never painted  
themselves nor taken any pleasure to wear such garments  
as might discover by naked skin. Modesty is the only  
jewel ~~is~~ ornament which men hadst esteemed to  
be most fitting, most-seemely, and such as cannot  
be undervalued by age.

### Chapter III

- 27.1 The Golden Bough. 3rd Edition. Part IV J.G. Frazer  
Adonis Attis & Osiris. Page 396
- 26.1 Note on Self-fertilized plants  
26.2 white Rats.  
26.3 Genetics — 1918 Muller.
- ~~26.3~~<sup>26.4</sup> Note on Royal families
- 27.1. Correlation between relatives on the supposition of Mendelian  
27.2 Inheritance of transactions. Royal Soc. Edinburgh Vol. LV. Part 2. R.A. Fisher.  
52. No 15.
- 28.1 Les Selections Sociales. Page 178 - 186 La P. La Fougere  
~~La Fougere~~
- 28.2 The Laws of Heredity. P. 265 G. Archdall Reid
- 31.1. Malthus. Essay on Population Book I Chap IV p 30
- 34.1 - Infantile Mortality. 'Biometrika' Karl Pearson.