

Programmes for Three Lectures on Heredity and Nurture

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Programme 1
3 lectures on Heredity & Nurture
South Kensington

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UNIVERSITY COLLEGE LONDON
GALTON PAPERS

DEPARTMENT OF SCIENCE AND ARTS
OF THE
COMMITTEE OF COUNCIL ON EDUCATION.

LECTURES ON HEREDITY AND NURTURE.

A Course of Three Lectures

will, with the permission of the Lords of the Committee
of Council on Education, be given at the

SOUTH KENSINGTON MUSEUM,

on behalf of the Anthropological Institute, by

FRANCIS GALTON, F.R.S.

President of the Institute.

The Lectures will take place on the following
Saturday afternoons at 4.30 p.m.:—

1. November 12th. Observed diversity in the bodily and mental characteristics of individuals. Anthropometric tests, and Records of Life-histories.
2. November 19th. Limits to the inheritance of ancestral peculiarities, and to the hereditary transmission of disease. Individual variation.
3. November 26th. Influences of various kinds of Nurture, Training, and Occupation on the average vigour, longevity, and disposition, of large classes of persons. Recapitulation and Suggestions.

Demonstrations of Anthropometric methods will be given
at the close of each lecture, so far as time permits.

Students in Training, National Scholars, and registered Students of the Department will be admitted free. The Public will be admitted on payment of a registration fee of 1s. the course.

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Revised Dates of the Lectures:—On the following Saturdays at 4.30 p.m.
November 26, December 3, December 10, 1887.

PROGRAMME OF LECTURE I.

Rapid advance of the science of man. The growing persuasion that the effects of heredity and of nurture are governed by physical laws. In proportion as this is really the case, so must the science of man be founded upon exact human measurement, using the word measurement in its widest sense, as opposed to mental estimate. The completeness with which human faculties may hereafter be measured, will be partly guessed by what has already been done. Instances of the application of the art of human measurement. Its wide employment in testing the physique of men before admission to the Army, Navy and Indian service, and in testing the intellectual capacity by examinations. The information given by human measurements cannot be precise but is always valuable. It is both absolute and relative; the especial importance of the latter. Method of exhibiting the differences among members of any group in respect to any faculty, by means of "Schemes." How to specify the class-place of a man in any particular scheme, by means of a uniform centesimal scale, ranging between 0° and 100°. The replacement of schemes that were founded upon observations, by normal ones that approximately resemble them, and which admit of mathematical definition. The power of the higher statistics. Application of the method of schemes to a class of observations that can barely be called measurements. Need for an Anthropometric Laboratory, with a Library of Family Records and Biographies. The functions it might fulfill and the conditions of its success.

Demonstrations of the use of the simpler Anthropometric Apparatus.

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PROGRAMME OF LECTURE II.

Inheritance and Variation are mainly derived from a common source. Particulate descent; modern houses built of stones from older structures. Metaphor of vegetation on two islands spreading over adjacent islets, used to illustrate family likeness and family differences, stability of type in a population, silent transmission of ancestral characteristics, and blended and mutually exclusive heritages. Effects of the latter upon incipient races. Paternal and maternal heritages. Inheritance of acquired faculties. The conversion of female characteristics into their male equivalents is assumed throughout.

Laws of inheritance that enable us to forecast "schemes" of children, grandchildren, nephews, &c., but not the place of individuals in their respective schemes. Each child inherits, on an average, one quarter of the personal peculiarities of each parent, one-sixteenth of those of each grand-parent, and so on. In other words, half of his own personal peculiarities come from those of his parents, one quarter from his grandparents, &c. Hence the personal and the latent elements bequeathed by each ancestor, are equal in amount. Corroboration of this by a deductive argument. The above law is equivalent to that which raises the influence of a parent from one-fourth to one-third, when none other of the previous ancestry are taken into account. Measure of the variability of the children of the same parents, and of those of like parents.

The above law fails to take account of stability of type. Organic stability illustrated by the mechanical stability of a polygon described about an oval. It can rest on any of its faces, but is increasingly liable to fall back the farther the face on which it rests lies from the position of greatest stability. Ultimately it may topple over into a new system. Origin of sudden varieties or "sports." Test experiments now going on in pedigree Moth breeding.

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[The following list of memoirs by the lecturer on the laws of inheritance may be convenient to those who desire to refer to them:—Typical laws of Heredity, *Journ. Roy. Instit.*, 1877.—Address to Section of Anthropology of British Association, 1885, (this is printed in the *Journ. Brit. Assoc.*, in that year, but is reprinted with revision and some much-needed illustrations in *Journ. Anthropol. Inst.*, 1885, under the title of Regression towards Mediocrity in Hereditary Stature.)—Family likeness in stature, *Proc. Royal Soc.*, 1886.—Family likeness in eye colour, *Proc. Royal Soc.*, 1886.]

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PROGRAMME OF LECTURE III.

The study of different conditions of life on large groups of men. Increase of the white races in modern times. Diversities in marriage, birth, and death-rates, and their effects in varying the proportions among men of different races. Also, in causing the breed of a nation to improve or degenerate. Unforeseen and wide consequences of apparently small reforms. The large infant mortality in the lower classes is followed by few of the beneficial results of natural selection. Want of statistical imagination and our consequent carelessness as to undoubted social duties. Modern instances of stringent State interference when its utility has become appreciated. Avowed cultivation of the physique of men. Professorships of physical culture at Amherst and Harvard Colleges, in America. Effects of gymnastics on national health in Germany and elsewhere. School hygiene and medical inspection. Civilised men are a costly stock to rear. Need for further social inquiries, and remarks on conducting them.

Retrospect of the three lectures. Briefly expressed, their object has been to discuss the influences that tend to "Eugenism."

Demonstrations—(1) Testing the color-sense by the instrument devised by Capt. W. de W. Abney, F.R.S., and General Festing, F.R.S.;
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