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Devoted to the Science of Religion, the Religion of Science, and the
Extension of the Religious Parliament Idea

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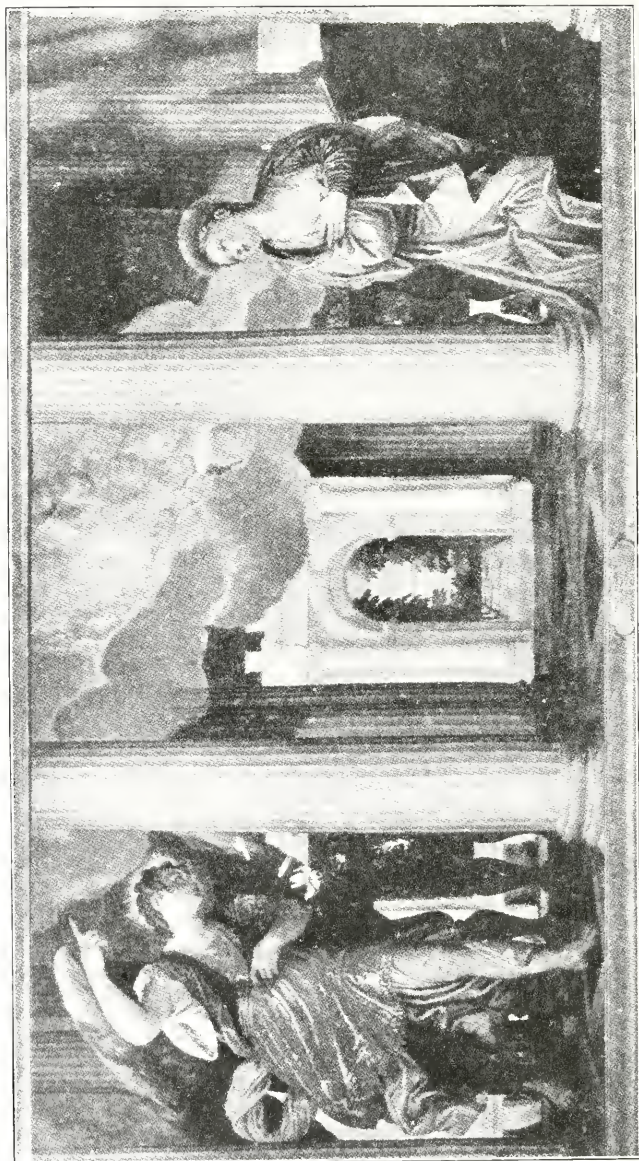
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THE ANNUNCIATION.
After Paolo Veronese.

Frontispiece to The Open Court.

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LONGEVITY AND GENIUS.

BY CHARLES KASSEL.

THE desire of long life, as a thing wishworthy in itself, seems rooted deep in human nature. Ever since the dawn of recorded time man has pursued the quest for a talisman against old age—sure harbinger as it is of decay and death—and the history and literatures of all ages are filled with allusions to charms and incantations, magic elixirs and fabled fountains of perpetual youth, in which the secret was fancied to abide.

In these latter days of truer knowledge, when the priesthood of science has supplanted superstition and begotten habits of rational thought, the myths of the earlier day have faded away, but the old feeling still remains and cries out against man's fewness of days.

Buffon is said to have fixed the life of man from the evidence of comparative zoology at one hundred and forty years, yet do we think the life a well rounded one which sees behind it half this stretch of time. A horse lives twelve times the period from birth to maturity—an elephant eight times; man does well to eke out four times the years from babyhood to completed manhood. Pike and carp have been known to live one hundred and fifty years—tortoises, eagles and crows have reached the age of one hundred years, while the queen bee, maturing in a few weeks after birth enjoys five years and more of life: yet man, the head and front of the whole animate creation, but rarely attains the psalmist's three score and ten. Why this pittance of years for nature's paragon against the liberal dole so many humbler creatures have received? No adequate answer has come as yet, whether from the closet of the philosopher or the laboratory of the scientist—the question remains, as it has always been, one of the most obscure in the whole range of biology.

Not that long life among men is altogether unknown, even

within the historic period and quite apart from the amiable fairy tales of classic mythology and the Old Testament. In our own day, indeed, the centenarian is less rare a figure than might be supposed. In a work by Pearce Kintzing entitled *Long Life and How to Attain It*, published by Funk & Wagnalls Co., we find some highly interesting data made up from the statistics of the British Registrar-General, showing that one person in every 127,000 in England attains the age of one hundred years, while from the statistics of longevity in Europe, quoted in a note, it appears that Germany, with a population at that time of 55,000,000 possessed seventy-eight centenarians, France with less than 40,000,000, two hundred and thirteen, Spain with 18,000,000, four hundred and ten, and Norway, with only 2,300,000 inhabitants, twenty-three. Switzerland, strangely enough, did not boast a single inhabitant who had passed the hundredth mile-stone in the journey of life, but as an offset to this rather singular circumstance was the fact that centenarianism is common both in Servia and Roumania, while Bulgaria had one centenarian for each thousand inhabitants, and in that country, in 1892, no less than three hundred and fifty deaths occurred of persons more than one hundred years old. It is to the long life of the Bulgarian, indeed, with his immense diet of curds, that the disciples of Metchnikoff point as a convincing proof of the bactericidal virtues of sour milk.

But all of this, however rich in interest for the student of biological and physiological science, leaves untouched the question which we have set before us for investigation. What is the influence on longevity of the mental and emotional exercise that comes with intellectual and artistic cultivation? How, if at all, do the stirrings of heart and mind in noble and worthy endeavor react upon one's length of days? What threads of relation, if any, shoot out to link a naturally vigorous mind with the elusive physical something that makes for long life? What is the relation, in a word, if any there be, between genius and longevity?

Oddly enough, this phase of the subject has received but the scantest attention at the hands of the scientific worker. Diet—climate—heredity—all these have felt the cold light of reason and research; but the power of the mind, and the things of the mind, whether in disarming or modifying the bodily organism against the onslaught of old age, appears to have escaped investigation, or, perhaps, from its very subtlety and elusiveness, to have been deliberately avoided.

One calls to mind the instinctive feeling of the unscientific, as

reflected in the proverbs of nations, that brilliant talents and long life do not often go together, and now and then, as he turns through the volumes upon his shelves, the student of the subject comes upon a passing word from high authority which might seem to cast light upon the problem: but the folkwisdom of mankind is not a safe guide, and the expressions of scientific authorities jar with one another and appear not to have been the fruit of careful inquiry. Thus the writer of the article upon the subject of longevity in the *Encyclopædia Britannica* arrives at the conclusion that "brainwork is not unfavorable to longevity," whereas another investigator, as appears from an article upon the subject in the *Nineteenth Century* for March, 1888, pronounces that "brain-work is surely not conducive to longevity." So, Lombroso, in his work upon *The Man of Genius* refers to "the remarkable longevity of men of genius in spite of their hyperesthesia in other directions," while Galton, in his *Hereditary Genius*, after mentioning the common belief that the gifted die young, finds it expedient to divide the children of fame into two classes—a smaller class destined to early death and a larger who claim the promise of vigorous old age.

None of these writers, in fairness be it said, assume to speak with the voice of authority as having worked out the subject in all its bearings. The word they utter is a passing one, lacking the dignity it could claim if spoken after a weighing of all the factors in the problem, and the meager statistics they offer must therefore be accepted in the spirit in which they are presented and not as conclusive. So far as research by exact methods is concerned, the question remains as it was when the article upon the subject in *Chambers Encyclopædia* was written. "Statistics have been accumulated," observes the writer of that article, "and such general facts as that married people live longer than unmarried, and women longer than men, and that the clergy have longer lives than other professional men, have been established; but deductions from such facts as these are unsafe in the present state of our knowledge—the whole subject is too complex."

A distinct approach to the discussion of the longevity of genius in a genuinely scientific spirit is the chapter upon "The Duration of Life" in that monument of patient research *A Study of British Genius* by Havelock Ellis: but this chapter is a scant one of six pages—the briefest, next to the chapter upon "Stature," in that remarkable work—and the results are negative. The statistical inquiry of Ellis is confined, of course, to British genius, and in that narrower field his work is of transcendent importance, but the

reader misses in the chapter upon longevity that painstaking care and laborious weighing of all factors which mark the remainder of the work. One element, indeed, upon which the whole problem turns, while distinctly recognized, is passed over without an attempt to reach a decision, and the single conclusion which emerges is the seeming confirmation of Galton's division of genius into very short lived and very long lived classes.

Seeing the importance of the problem, and believing that a trustworthy conclusion can only be attained by a statistical study of the question at large, the present writer has gathered from universal biography a varied store of data upon the longevity of men of genius in all lands, using in the work Prof. J. Cattell's table of the world's thousand most famous men and women as published in the *Popular Science Monthly* for February, 1903. Longevities according to vocation and nationality; these again cross-classified by the periods in which the respective celebrities flourished; longevities arranged by stature and physiognomy and the fertility of the parents; longevities according to hair-color and structure and the calling in life of the immediate ancestors; these tables, and others of less interest and importance, we have made up from the figures garnered out of the lives in our libraries, and with some of these tables and their implications it is our purpose in this paper to deal.

Tracing through Professor Cattell's lists, we find a few of the world's great within the range of historic time who reached or passed the hundredth milestone. Fontenelle, the French writer, Sadi, the Persian poet, and Democritus, Greek physical philosopher, attained three score and ten and thirty, the first dying at the age of one hundred, the second, according to the most trustworthy data available, at the age of one hundred and one, although the time of his birth and death are shrouded in doubt, and the last, as best can be gathered, between the ages of one hundred and one hundred and eight. It is, however, to be remarked that Titian, the Italian painter, lacked but one year of rounding out this magic cycle and Isocrates the Athenian orator, but two.

The nonegenarians, naturally enough, answer our call in larger number. Inclusive of Titian and Isocrates, we find nineteen in Professor Cattell's table of names who died in the ninth decade of life. These, omitting the two just mentioned, were Gautama, the founder of Buddhism, Alexander von Humboldt, the German naturalist and statesman, Lord Brougham, English statesman and author, Sophocles, Greek tragic poet, Berengarius de Tours, French theologian, Pope John XXII, all of whom died at the age of ninety, with

the possible exception of Gautama and John XXII, whose ages, at death are subject to dispute; Thomas Hobbes, English philosopher, John Adams, President of the United States, Wilhelm I of Prussia, Thomas A'Kempis, German ecclesiastic and author, L. von Ranke, German historian, E. M. Arndt, German poet and patriot, P. D. Huet, French scholar, and Sir Christopher Wren, English architect and astronomer, who died at the age of ninety-one, L. F. A. Richelieu, Marshal of France, Jean de Joinville, French chronicler, who died at ninety-three though the date of the latter's birth is somewhat uncertain; Thales of Miletus, Greek sage and philosopher, who died at the age of ninety-four, and J. H. Dupin, French dramatic writer, who died at the age of ninety-six.

The octogenarians troop in goodly number, indeed, from out the pages of biography. No less than one hundred and eleven of those whose names appear in Professor Cattell's lists passed the age of eighty years, six having wanted but a single year and seven but two years of ninety, six having died at the age of eighty-seven, eleven at eighty-six, nine at eighty-five, and the remainder having been gathered to their fathers at ages short of eighty-five.

The septuagenarians make up nearly one fourth of the entire list. No less than two hundred and forty-four of the distinguished individuals named by Professor Cattell lived to ages ranging between seventy and eighty, making a grand total of three hundred and seventy-seven for those in the catalogue of the world's thousand greatest geniuses who reached or passed the scriptural span of three score and ten.

When we come to calculate the average length of life for the eminent personages in the ten lists of Professor Cattell we reach a result which is equally startling. The average age at death of those in the first list—composing the world's most eminent hundred—is 64.11; of those in the second list—enjoying a somewhat less brilliant fame—the average age at death is 65.31; in the third list the average falls to 64.44; the fourth shows an average of 64.13; the fifth an average of 66.15; the sixth, 64.12; the seventh, 61.77; the eighth, 63.64; the ninth, 64.73; the tenth, 64.42; making the average at death for the world's thousand greatest men and women 64.28 years. Seeing that in the article upon longevity in the *Encyclopædia Britannica* the figure thirty-four is given as the average age at death of the modern inhabitants of Europe, we may account the average we find for world's geniuses as one which, at first view, is sufficiently remarkable.

The longest lived among the world's most famous thousand

are, according to our data, the physicians, whose death took place at the average age of 70.41 years. Ranged behind the physicians in the order of longevity are the historians, dying at the average age of 70.36, scientists enjoying an average life of 69.1, statesmen and orators 67.37, writers generally 66.16, religious celebrities 66.3, painters and sculptors 65.38, philosophers 65.29, composers and musicians 65, military and naval figures 61.63, novelists 61.52, poets 60.02, kings and rulers 58.55.

Classifying by centuries the longevity mentioned in the paragraph preceding, we find that the scientists, whose average life-length is 69.1, enjoyed, prior to the Christian era, an average longevity of 75.75, and between the commencement of the Christian era and the sixth century an average of 56, while between the beginning of the sixth and the beginning of the seventeenth centuries the average was 67.8, during the seventeenth 76, during the eighteenth 72.13 and during the nineteenth 64.

Before the dawn of the Christian period, statesmen and orators, whose general average is 67.37, enjoyed an average life-length of 72.1. Between the birth of Christ and the beginning of the sixth century this class is not represented in our lists, but from the beginning of the sixth to the end of the sixteenth century the average for statesmen and orators was 60.2, during the seventeenth 65.3, during the eighteenth 67.02 and during the nineteenth 64.13.

Of personages connected with religion, whose general average is 66.3, the average prior to the birth of Christ was 73.3, during the four centuries after 65.13, during the period succeeding ending with the sixteenth century 63.3, during the seventeenth century 69.5, during the eighteenth 70.1 and during the nineteenth century—two names only—54.5.

Of the philosophers, whose general average is 65.29, those living before the Christian era enjoyed an average longevity of 66.5, those of the four centuries following 62.5, those from the beginning of the sixth to the end of the sixteenth century 67.18, those of the seventeenth century 67.33, those of the eighteenth 66.88 and those of the nineteenth 67.

Of the poets, whose general average is 60.02, those of the pre-Christian ages enjoyed an average longevity of 60.5, those between the birth of Christ and the end of the fifth century 68, those from the beginning of the sixth to the beginning of the seventeenth century 60, those of the seventeenth century 65.28, those of the eighteenth 57.66 and those of the nineteenth century 72.

For all these classes taken together the average longevity before

the birth of Christ was 69.63, during the four centuries following 62.9, during the succeeding eleven centuries 63.69, during the seventeenth century 68.68, during the eighteenth 66.75 and during the nineteenth 64.32.

It is a circumstance of curious note that during the pre-Christian ages, according to our data, genius of the orders we have named enjoyed a longevity higher than the highest any period of the Christian era can boast, nor can the reader have failed to remark the bold contrast of this strangely high average with the singularly low one for the first four centuries of the Christian era. It is a fact, moreover, of seemingly evil omen that during the nineteenth century—blazing as it does with the triumphs of medical and surgical skill—the average sinks to a point almost as low as that which marks the first four hundred years after Christ; nay, lower, in so far at least as concerns European genius, which, during that century, claims an average longevity of 52.7.

To look upon these variations as merely accidental would be difficult in any event, but from a peculiarly impressive quarter, as it happens, confirmation comes which removes any lingering doubt. In a highly instructive statistical study of eminent women as published in the *Popular Science Monthly* for June, 1913, Mrs. Cora Sutton Castle, submits statistics which evidence much the same differences in longevity for the several periods in the case of women of genius as are found by us in the case of genius at large. Thus, with women of distinction, as with the eminent individuals listed by Professor Cattell, the average for the first few centuries of the Christian period is low, and with Mrs. Castle's subjects, also, the figure for the nineteenth century shows a decided decline, although that decline in her tables begins with the eighteenth century instead of the nineteenth as with us. We see, moreover, in Mrs. Castle's statistics, as in our own, a gradual lifting of the average through the centuries.

A few generalizations more may not be amiss. We note, for example, that to the high longevities prevailing during the pre-Christian ages the case of poets forms an exception. During the eighteenth century, as well, bards and minstrels fared poorly in their hold on life, but in the nineteenth century, when the general average had declined, that for poets soars to an impressively high figure, in puzzling contrast with the figure for scientists, statesmen and orators. Philosophers, too, it may be remarked, have in all ages enjoyed a goodly length of days, if we except the first four centuries of the Christian era.

A classification of these longevities by nationalities is not uninteresting. The highest average is claimed by Americans, whose philosophers enjoyed an average of 81.5 years as against the general average for that class of 65.29, statesmen and orators 72.93 as against the general average for that class of 67.37, and scientists 60 as against a general average of 69.1, making the average age at death of the distinguished Americans of these vocations 71.47.

Following next in rank are the Germans whose poets attained the average age of 71.22 as against the general average for that class of 60.02, its scientists 70.18 as against the general average for scientists of 69.1, its philosophers 69.5 as against the general average of 65.29, its statesmen and orators 67.66 as against the general average of 67.37, while its ecclesiastical celebrities enjoyed only an average of 62.56 as against the general average of 66.13, making the average longevity of the distinguished Germans of these vocations 68.22.

The celebrated Frenchmen of these orders of genius in Professor Cattell's lists enjoyed an average longevity of 66.59, those connected with religion claiming an average of 71.6 as against the general average of 66.3, its statesmen and orators 68.2 as against the general average of 67.37, its scientists 66.9 as against the general average of 69.1, its poets 63.3 as against the general average of 60.02, its philosophers 62.95 as against the general average of 65.29.

The Greeks show an average longevity for their distinguished men of 69.29, their poets enjoying a longevity of 72 years as against the general average of 60.02, their statesmen and orators 71.7 as against the general average of 67.37, their philosophers 57.18 as against the general average for philosophers of 65.29.

The English and Scotch enjoyed an average life-length of 68.26, their philosophers boasting the astonishing age on the average of 74.15 as against the general average of 65.29, their scientists 72.16 as against the general average of 69.1, their statesmen and orators 75.71 as against the general average of 67.37, their religious figures 64.18 as against the general average of 66.3, their poets only 55.12 against the general average of 60.02.

The Italians have enjoyed an average life-length of 64.08, their scientists, two in number, having attained the average age of 82.5, against the general average of 69.1, their philosophers 62.5 against a general average of 65.29, their religious celebrities 65.66 against a general average of 66.3, their poets 55.24 against the general average of 60.02, and their statesmen and orators 54.5 against the general average of 67.37.

The general average for distinguished Romans is 56.83, their statesmen and orators enjoying an average longevity of 58 against the general average for that class of 67.37, their philosophers 56.6 against the general average of 65.29, their poets 55.91 against the general average of 60.02.

Casting a retrospective eye over these figures we remark the low longevity of the poets of Rome as compared with that of the poets of Greece, and we note how poorly the bards of Italy and those of England and Scotland fare beside the French and the Germans. The extraordinarily low longevity of Roman genius in general must have impressed the reader, nor can it have escaped his attention that among the Greeks, as among the Romans, philosophers came off but indifferently well, the high figures for statesmen and orators and for poets among the Greeks serving to give that country its high average. It is a circumstance well calculated to provoke reflection, moreover, that in our own land, where genius enjoys a higher longevity than any other country can boast, scientists lay claim to only sixty years of life as an average as against 66.9 for France, 70.18 for Germany, 72.16 for England and Scotland.

The remarkably high figure for statesmen and orators in all countries save Rome and Italy is not undeserving of notice. England and Scotland lead with an average of 75.71, America ranking next with 72.93, then Greece with 71.7, France with 68.2 and Germany with 67.66, followed by Rome with 58 and Italy with 54.5.

Though less signally than statesmen and orators the world's philosophers have enjoyed a generous fulness of days, those of America soaring to 81.5, followed by England and Scotland with 74.15, Germany with 69.5, France with 62.95, Italy with 62.5, Greece with 57.18 and Rome with 56.6.

We have not deemed it worth the pains, in connection with this discussion, to perform the toilsome task of computing the averages by nationality for all the names in Professor Cattell's lists, believing a larger interest and value to abide in the averages for the particular orders of genius we have mentioned. We incline to believe that a calculation of the averages by nationality for the entire thousand names would not yield figures higher than those we have submitted, and we are persuaded that the fuller table of names for the nineteenth century which shall be possible fifty years hence or more will not do away with the conclusion that the longevity of genius is actually or seemingly on the decline, since a similar conclusion is proclaimed by Mrs. Castle for the longevities of eminent women.

and a computation of the averages for Americans of the eighteenth century gives 73.31 as against 67.4 for Americans of the century just closed. So far as concerns Americans in Professor Cattell's lists, of all orders of genius, we have taken the pains to calculate the average and arrive at the striking figure of 70.58. The number of American names in Professor Cattell's lists is not large, and this circumstance must always be taken by the statistical inquirer as a warning to go slowly and be wary of generalization, but Mrs. Castle found American women of ability "noticably longer lived than those of any other country" and, provisionally, at least, we may assume a native vigor in American genius such as that of no other land can claim.

We have now reached the end of that stage of our discussion which parallels, while amplifying, the investigation of Galton and Lombroso. To rest content, however, with the statistics we have submitted would be to leave the impression for the wonderment of the passing reader—as do, indeed, the statistics of Galton and Lombroso—that genius in its dole of years upon the earthly plane is peculiarly favored of the gods. Such an impression would satisfy the natural longing for fine effects and results that startle, but the sober demands of scientific inquiry cry out against too hasty generalization.

One factor vital to any just solution of the problem appears to have been wholly neglected alike by Galton and Lombroso—namely, the age at which, on the average, genius attains a distinction sufficient to win a place in such a list of names as that of Professor Cattell. With this factor ignored the result of a statistical inquiry such as we have undertaken must needs be illusory.

It is this factor in the problem, wholly overlooked by most workers, which Havelock Ellis has so clearly recognized, as has also, of course, Professor Cattell. "It must always be remembered," says Ellis, "that when we are dealing with men of genius we are really dealing with *famous* men of genius, and that though genius may be born, fame is made—in most fields very slowly made. Among the poets, it has generally been found, longevity is less marked than among other groups of eminent men, and the reason is simple. The qualities that the poet requires often develop early; his art is a comparatively easy one to acquire and exercise, while its products are imperishable and of so widely appreciated a character that even a few lines may serve to gain immortality. The case of the poet, therefore, is somewhat exceptional, though even among poets a few attain perfection at an early age. In nearly every other field the

man of genius must, necessarily, take a long period to acquire the full possession of his powers, and a still longer period to impress his fellow men with the sense of his power, thus attaining eminence. In the case of a lawyer, for instance, the path of success is hemmed in by tradition and routine, every triumph is only witnessed by a small number of persons, and passes away without adequate record: only by a long succession of achievements through many years can a lawyer hope to acquire the fame necessary for supreme eminence, and it is not surprising that of the eminent lawyers on my list only five were under sixty at death. Much the same is true, though in a slightly less marked degree, of statesmen, divines and actors."

The figures submitted in an earlier paragraph of this paper show how this shifting and elusive element operates. We have seen, for example, that physicians in the catalogue of names have enjoyed, seemingly, a higher longevity than all other orders of genius, but the circumstance finds its explanation, doubtless, in the tardier arrival of that class in the race for fame. Poets, on the other hand, who, as remarked by Ellis, attain fame often at an early age, are, next to kings and rulers, the shortest lived among the orders of genius in our lists. So it is by no means unexpected that among the lower longevities we find numbered novelists, military and naval figures, composers and musicians, painters and sculptors, who not infrequently attain high place in early manhood, nor is it matter for marvel that among the high longevities historians are conspicuous, as well as scientists, statesmen and orators, to whom renown comes more slowly. The gradation of classes, therefore, in the scale of longevity does not signify necessarily that one class is shorter lived than another.

The desideratum in this aspect of the investigation is a standard for determining the age at which famous men on the average attain eminence. It is scarcely scientific to waive aside a factor so important, as Ellis has done, with the mere observation that "eminent men must live a long time or they will never become eminent" and that it is idle, consequently, "to pile up records of the longevity of men of genius." Professor Cattell, it is evident, has grappled with this surpassingly difficult and baffling element in the problem and in the article which prefaces his celebrated list of names he announces a conclusion which may serve our uses. "Men attain eminence," he declares, "about fifty years after they are born." By just what method this figure is reached does not distinctly appear, but the general procedure is carefully described and the arduous and pains-taking labor which bore fruit in his immensely useful table of names

is a sufficient warrant that the figure he has given is the product of exact and dependable processes. The accuracy of the estimate is strongly confirmed by some very interesting data to be found in an anonymous article in the *Atlantic Monthly* for February, 1891, giving the ages at which celebrated persons have performed their distinctive work, and the test of the figure also by a tabulation of the names in Professor Cattell's lists where death has occurred under the age of fifty emboldens us the more in adopting that figure as our standard.

According to the American experience tables of mortality, as published in the *World Almanac* for 1913, the life-expectancy, at the age of thirty, is 35.33, at the age of thirty-five it is 31.78, and at the age of forty 28.18, at the age of forty-five 24.54 and at the age of fifty 20.91. At the age of thirty, therefore, an individual enjoying sufficient fame to win a place in Professor Cattell's list should have looked forward to a life-length of 65.33, at thirty-five to 66.78, at forty to 68.18, at forty-five to 69.54 and at fifty to 70.91.

In the article upon "Temperance" in the *Encyclopædia Britannica* we find comparative statistics of mortality as determined by the British Registrar General, from which it appears that the general expectancy of the total male population of England and Wales at the age of thirty is 33.1 as against 35.1 years drawn from the experience of British insurance companies, at the age of thirty-five 29.2 as against 31.2 for insured males, at the age of forty 25.6 as against 27.4 for insured males, at the age of forty-five 22.2 as against 23.7 for insured males, and at the age of fifty 18.9 as against 20.1 for insured males, so that, if the statistics for the population of England at large is to be our guide, the celebrities in our lists at the age of thirty should have looked forward to a life-length of 63.1 years if uninsured and 65.1 if insured, at the age of thirty-five to 64.2 if uninsured and 66.2 if insured, at forty to 65.6 years if uninsured and 67.4 if insured, at forty-five to 67.2 if uninsured and 68.7 if insured, and at fifty to 68.9 if uninsured and 70.1 if insured.

Comparing American and British experience tables of mortality, as employed by insurance companies, we find a higher average longevity for Americans from about two tenths of a year for the expectancy at thirty to about eight tenths of a year for the expectancy at fifty, so that with due allowance made for the superior longevity of Americans, which, as we have seen, is enjoyed in even higher proportion by American genius than by the ordinary population, the result is still markedly unfavorable to the longevity of genius as compared with the longevity of the ordinary population.

The lowest expectancy under any of the tables we have used—that for the uninsured male population of England—gives, when calculated from the age of fifty, a life-length higher by more than four and one half years than the average enjoyed by the thousand individuals in Professor Cattell's lists. Measured by the expectancy for the insured males of England the figures rises to 5.82 years, and when measured by the American experience tables of mortality a result even more imposing is obtained, but we appreciate the difficulty of utilizing for our purpose the tables of insurance actuaries, especially as insured life on the continent of Europe, and particularly in Germany, possesses a lower value in terms of years than is claimed by insured life in Great Britain. English life tables, however, as applying to the ordinary population, are admitted on all hands to be the most nearly perfect in existence, and tested by those tables the longevity of the world's thousand most gifted individuals has been decidedly inferior to that of the population at large.

We are not unmindful, be it said, of the difficult elements in the comparison. The law of averages, we realize, is a fatuous thing, and an average computed from data not sufficiently large to exclude accidental factors may lead to results wholly untrustworthy. We are well aware, in particular, that no formula exists for arriving at the value of life in terms of years at a given epoch in the past, nor can we know that the forces now at work in civilized society do not influence the average duration of life very differently than did the forces at work in earlier ages influence the life of those times, and it is not impossible that the average life-expectancy at the age of fifty during the several periods of historic time may have been sufficiently below that of the present day to absorb the difference we have found in favor of the ordinary population as against the children of fame. So, too, it may be said, even the English life-tables are confessedly tentative and provisional, and the very figure we employ as a basis for the calculation of our expectancies may be too high. Making the most generous deduction, however, for these considerations, it still appears that the conclusions of Galton and Lombroso are a delusion, and that genius, if not actually shorter-lived by a goodly number of years, is assuredly not longer-lived than mediocrity.

A statistical inquiry quite novel and curious, if not so promising or important a one as that just closed, concerns the classification of longevities according to stature and physiognomy, hair color and structure and the fecundity of the parents, using as a basis the data upon the physical characteristics of genius appearing in the

articles of the present writer published in the *Popular Science Monthly* for November, 1907, December, 1910, February, 1911, and September, 1912. We find that those eminent personages who sprang from families boasting a larger number of children than seven enjoyed an average longevity of 69.4 years, while those who were derived from families claiming less than seven children died on the average at the age of 65.29. So, those persons of genius who were tall attained the average age of 65.7 years, while those who were of medium stature or under failed by several months of reaching sixty. The black-eyed geniuses, it appears, were longer-lived than those of other eye-colors, their average being 69 years, gray eyes being next in rank with an average of 68, hazel eyes with an average of 67.87, blue eyes with an average of 60.73, and brown eyes, with an average of 50.87. Genius with large eyes enjoyed an average longevity of 58.9 as against the markedly larger average for the small-eyed of 67.3. Those with deep set eyes and high arched brows claimed a longevity of 65.22, but geniuses characterized by powerful jaws, strangely enough, died at the age of 59. Perhaps the very force of will reflected in the massive jaw won for these individuals an earlier fame. The hawk-nosed were gathered to their fathers at the average age of 60.13, the large-nosed at 59.4, the straight-nosed at 58, and the small-nosed, quite naturally, at 57.6. The black-haired individuals listed in the article upon "Hair Color and Genius" claimed an average life-length of 64.3, and those with "dark hair" 64.23, but their brown-haired fellows ended life's fitful fever at 58.71. The straight-haired among the celebrated personages mentioned in that article enjoyed the relatively high longevity of 63.75, while those of curling or wavy hair laid down the burden of existence at 57.95.