
CHAPTER XXV.

Of FIVE CLASSES, both Male and Female, to be discriminated in any population.

224. The object of consideration now before us is that of various classes susceptible of being discriminated amongst any extensive population, with the view to apply a general Law of Mortality under its appropriate modifications corresponding with those respective classes; and the chief purpose of such application is to regulate, on equitable terms, all pecuniary contracts understood to involve a correct appreciation of the chances of life. The relative superiority, or the relative inferiority, of any specific class contradistinguished from any other, results from a comparison of the Absolute intensity of life, as measured with reference to each class in particular, and also with the distinction of each sex; which measure of intensity shall have been ascertained by adequate, enlarged, and digested experience.

225. An Absolute intensity more elevated, than its standard referable to the indiscriminate population, is manifested in minor extent amongst a class of persons generally fulfilling the conditions required for admission to an insurance of their lives. Towards ascertaining such intensity of life, referred to that class, the experience supplied in Great-Britain has been in some degree extensive; but from its hitherto excluding all consideration of the lives under *ten* completed years of age, a necessity

has arisen to complete the tables resulting from an investigation of the data thus supplied, by admitting, as regards the earlier ages, such results as harmonized in proportions to correspond with those of experience obtained amongst the other classes.

226. A still more elevated degree of superior intensity, compared with its general average, is manifested amongst a class including the Life-annuitants and Tontine-nominees; all whom, from the circumstances of their existence, and from a more effectual exclusion of defective lives than is obtained amongst the aggregate of Assurables, reunite in a higher degree those conditions requisite for constituting a select class. Compared statements of crude facts, observed at various times and places amongst the life-annuitants and tontine-nominees, have — though liable to much correction in order to reconcile their inconsistencies — supplied, on the whole, very valuable and probably sufficient data, towards ascertaining not only the Absolute, but also the Specific intensities of those lives at their successive years of age.

227. But there is further to discriminate a class, amongst which the Absolute intensity of life is even superior to that of the two preceding. Though incapable of immediate exemplification, by individuals in very considerable number congregated together, it is nevertheless requisite to assume the virtual existence of such a class, however disseminated, and describable as consisting of comparatively *Perfect* lives; towards supplying, from its especial consideration, sets of corresponding tables that should secure either the State or private associations, as occasion offered, against eventual loss arising from individual speculations, so directed as possibly to defeat public objects; or else to answer any other purpose. Supposing, for example, a numerous collection of lives otherwise

select; and that, amongst those only, any part were to be considered at the precise period of their contracting marriage; or supposing a transaction such as occurred during the last century, in which the French government contracted to grant annuities depending on the limited number of *thirty female lives*, carefully chosen amongst the inhabitants of Geneva; it is certain that, in neither of those cases, the contingencies depending on lives so described could be adequately valued by applying tables of mortality exactly corresponding even with the general class of life-annuitants and tontine-nominees, than which no one superior has been at any time taken into consideration.

228. A *fourth* class, consisting in the aggregate population, indiscriminately considered, of any considerable country or district, is thus sufficiently described; and the Law of Mortality then applicable will be such as chiefly to answer statistical purposes, or otherwise to afford the requisite security in transactions of a public nature, when the individuals, on whose lives the valued contingencies are made to depend, shall be distinctly understood superior or inferior to general lives; according as the contract may then be, either to receive the certainty against the contingency, or else to receive the contingent sums in exchange for the unrestricted disbursement.

229. Regarding all classes of inferior lives, it is sufficient to discriminate one only; being a *fifth*, composed of individuals who, — though existing under a set of conditions generally less favourable to the preservation of life and health at all ages, than those characterizing the existence of any population at large, — may nevertheless, and consequently to mutual agreement, become the object of pecuniary transactions, relative to contingent sums depending on their various chances of life and of survivorship. This class, whose condition is still remote from

one of abjectness, are mostly the object of Institutions abounding throughout Great-Britain, under the denomination of *Benefit-societies*; and it is of paramount importance that the laborious and provident, amongst that class, should be dealt with on terms of perfect equity, which can only be secured by applying to all transactions with them, of a contingent description, such a modification of the general law of mortality as may be found sufficiently appropriate.

230. Let us now recapitulate, regarding both Males and Females of those different classes, the conditions of existence considered as best characterizing them respectively.

231. Suppose any collection of individuals to possess in common the following qualifications: — *First*, an original constitution and conformation both exempt from defect, each individual ascertained to proceed from healthy parents, as also not to have been prematurely born; — *Second*, a presumable non-liability to the Small-pox, whether from any undoubted preservative, at least against its appearance in a dangerous character, or from having overcome that disease; — *Third*, circumstances in all probability affording the permanent means of sufficient and wholesome subsistence, as also of proper care towards the maintenance of health, especially during infancy; — *Fourth*, habitually to reside on a salubrious soil, with the benefit of pure air and of wholesome waters; — *Fifth*, exemption from employments susceptible of endangering life, or obviously tending to abridge it; — *Sixth*, the unquestionable enjoyment of mental health; — *Seventh*, to be of moral and temperate habits; — *Eighth*, freedom from anxious cares, and from sedentary occupation attended with excessive exercise of the mental faculties; — *Ninth*, to continue, if in very advanced age, the same diet and mode of living that led to such age; — *Tenth*, abstention from long voyages by sea, and from

other voyages obviously perilous, as also from changes of climate that should probably impair the general health; — *Eleventh*, actually perfect health at any special period selected for consideration, such as when admitted a nominee to any life-annuity, or in case of other transactions of a pecuniary nature, that should require to apply, regarding the individual, an appropriate modification of the general law of mortality; — *Twelfth* and last, that the casualties of War, Famine and Pestilence, were understood not to exert any influence on the rates of mortality, amongst the aggregate individuals otherwise circumstanced as above. It is certain that any collection of persons, re-uniting those conditions, would constitute the very first of all classes describable as Select, out of any considered population; and for practical purposes, the existence of such a class must necessarily be assumed.

232. Admitting, amongst the above-enumerated conditions of existence, that a few—though not positively excluded, — were merely neglected to be taken into consideration, as mostly escaping observation; there still would remain a set of such favourable conditions, as should be quite applicable to a *second* class of selection, usually falling under the collective description of Life-annuitants and Tontine-nominees; although many purchasers of annuities made to depend on the event of their lives' continuance, as also many sharers of tontine-speculations, may fail to unite all the conditions here supposed generally to qualify that class.

233. Should there further be discarded from consideration a few more of those conditions, essentially qualifying the first select class and in greatest part retained for the second; absolutely insisting on no other than the 2^d, the 5th, the 6th and the 10th, with the 11th more or less mitigated, the 3^d condition being implied from the

nature of the transaction, and the 12th generally assumed; a *third* class will thence arise, still participating in the advantage of selection amongst the whole population, as that class expressly excludes all individuals existing under circumstances especially unfavourable. Such third class is appropriately denominated of *Assurable lives*, with which indeed a very considerable proportion of the population is susceptible of being assimilated.

234. The class taking rank as the *fourth* qualifies itself from an aggregate of all the circumstances under which any extensive population may actually exist; and accordingly, it stands characterized by the measure of life's Absolute intensity, expressed by the proportion of such population's periodic renewal in case of its being stationary; or otherwise expressed by a geometric proportional between the diverging quotients, of the population distinctly divided by the periodic births and by the periodic deaths, in case of its being progressively increasing or decreasing. The Law of Mortality referable to an indiscriminate population doubtless affords ample security in its application to the transactions of life-insurance societies, and generally to transactions of all societies receiving periodic premiums or other contributions contingent on the endurance of lives qualifiable as select, in exchange for contracts to pay definite sums at periods either certain or uncertain; though it could not consist with the requisite security of such public institutions, to admit the contingent sums, thus receivable, according to valuations founded upon an application of mortality-tables strictly referable to the classes of people dealt with. Great inconvenience attends the usual practice of life-insurance societies who preferably compute from the *Northampton* tables, which apply only to lives of a very inferior description; considering that a double error of no inconsiderable magnitude is thence generated: first, by materially undervaluing the contingent

premium of insurance, and secondly by inferring a more proximate period than the probable one at which the insured sum should be disbursed; whilst any supposed remedy, consisting in the promise subsequently to restitute a certain portion of the excessive profit, must be ineffectual, as such restitutions, — in the shape of a *bonus* or in any other shape, — are inevitably regulated upon doubtful principles, as also according to arbitrary proceedings foreign to the spirit of such contracts.

235. The *fifth* or inferior class, alluded to in the 229th and 235th paragraphs, necessarily excludes all Male individuals of the military and naval professions, as also a considerable mass of people so disadvantageously circumstanced in social order, that they are inevitably shut out from the benefit of reciprocal contracts. The lives of this class, in their generality and independently of discriminating the sexes, are represented with great approach to the truth, by the united mortality-tables of Duvillard, — referred to the population of towns in France at a former period, with liability to the Small-pox, — and of Dr. Price for the population of Northampton towards the same period; those tables differing little more than from the former's attributing, to lives under 56 years, Specific intensities rather superior to those expressed by the latter, which on the contrary admits rather superior intensities above that age.

236. If it were inquired, respecting any probable distribution of the population, into relative quantities of each class; it would be, as regards the present population of France, in the following proportions, or thereabouts. Amongst every *hundred*, in the whole quantity, *one* of the first class, *nine* of the second, *fifty* of the third, and *forty* of the fifth joined with any still inferior and rejected classes; the fourth forming a general average. Those unimportant indications, however, are given without

pretension to great accuracy, being only the result of calculation on more or less unsettled grounds; besides that differences, from the above proportions, should inevitably become apparent with reference to the contradistinguished sexes, as also to the various ages, and that the operation of time further tends to disturb more or less those proportions.