ORIGINAL ARTICLES.

LONGEVITY OF PHYSICIANS.

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All men think all men mortal, but themselves.—*Young*.

"It is a swift current—that stream of life, on which we ride. We fall asleep, and awaking, find ourselves almost home. Our companions, too, are constantly changing; at every moment new ones come aboard, and old ones leave us, and we have scarcely time to become familiar with their faces, or to make ourselves acquainted with their character or purposes, before they are summoned to the gangway the boat is lowered, and we wave them a friendly farewell. All along the sands of that silent shore, which we now so faintly see, our friends have left us: and we are awaiting the time when, cheerfully, manfully and hopefully, I trust, we shall receive our summons and depart 'alike to the inevitable grave.'"

—Extract from Dr. Frank H. Hamilton's Eulogium upon the life and character of T. Romeyn Beck, M.D., LL.D., February, 1856.

What I shall present upon the subject of the Longevity of Physicians will be more in the nature of a compilation of what I have been able to find published by my predecessors, rather than tables or deductions framed from my personal observation and experience. I shall therefore quote freely the substance, if not the exact language, of what I have found recorded. After a very diligent search for information on this, to me, interesting topic, I have been led to the conclusion, that there is quite a dearth of matter, thus far printed on this subject.

I am aware that heredity is the prime factor to be considered in forecasting the probable longevity of any member of the human family, and vocation is of secondary importance; nevertheless statistics prove that it has its influence beyond question in the life of the individual. Life insurance companies classify some vocations as extremely hazardous and decline to assume risks upon persons engaged in them. The scope of this paper is not designed to include, only for reference or comparison, any profession or vocation save that of the medical practitioner.

F. G. P. Neison, Esq., read before the Statistical Society of London, March 15, 1852, a paper "On the Rate of Mortality in the Medical Profession" accompanied with many full and elaborately constructed tables, the whole occupying thirty pages of the Quarterly Journal of the Statistical Society of London published in September, 1852. Mr. Neison's article considered the rate of mortality among two different classes of medical men; the one class being the officers of the Medical Department of the Royal Army and the other the members of the Royal Medical Chirurgical Society. The facts relating to the former were collected from the records of the Society for the benefit of the widows of the officers of the Medical Department of Her Majesty's Army established in the year 1816, and the facts, relating to the latter class were abstracted from the books of the Royal Medical Chirurgical Society established in the year 1805. Mr. Neison states that the utmost care was taken by him and the analysis was a laborious and troublesome one. The social condition of the members had an important influence on the rate of mortality and he found that the results of his analysis were not only exceedingly curious, but of great and practical importance. By social condition, Mr. Neison refers to married and single, his researches showing that the rate of mortality of the unmarried from 20 to 54 was 2.386 per cent. while the married for the same ages

was 1.872, and that from 55 to 84 the rate of the unmarried was 2.972 and the married 1.422; that is, that the mortality of single life is greater in the earlier ages and less at those ages more advanced. These tables however refer to those connected with the army. Mr. Neison's investigations relative to the members of the Royal Medical Chirurgical Society show the mortality of medical men differs but little from that of the general male population of England and Wales. Dr. Wm. A. Guy read a paper before the Statistical Society of London, Dec. 19, 1853, "On the Duration of Life among Medical Men." His essay embodied a table showing the average age at death in 260 members of the medical profession. He excludes all deaths by violence, accident or suicide, which I regret, as these fatalities are frequently concomitants or resultants of the practice of our profession. The arrangement of his tables are such that I have not been able to make any practical use of them. His conclusions are that the duration of life of members of the medical profession does not differ materially from that of the clergy; that the duration of life of physicians has somewhat increased during the last three centuries. He made a table of three classes of medical men, showing that the general practitioner exposed to so much fatigue, harassed by calls for his professional services, at all hours of the day and night, and often a prolonged attendance among those classes of the community with whom contagious diseases are most rife, have their lives shortened when compared with the other members of the same profession.

James Easton of London has published an account including the name, age, residence and year of decease of over 1,700 persons who survived 100 years and more, from the 1st to the 18th centuries. The official records of the Board of Health of New York contain a record of over thirty centenarians that died in that city during a period of three years and five months from Jan. 9, 1864, to May 15, 1867. It is stated that the oldest of the Greenwich and Chelsea pensioners all answered in the affirmative the two questions: Were you descended from persons of long life? Have you been in the habit of early rising?

Intemperance is one of the most pernicious agencies in shortening life, operating at all times and in all seasons, and is no respecter of persons or professions.

If an excuse or apology could justly be made for any one falling into the habit of intemperance, it could be made for the wearied and worn-out physician who whilst he should be an example of the proper mode of living is tempted to use alcohol in some form for the temporary stimulation he receives. But the fallacy, as well as the unfortunate results of such a course, is at the present time made more apparent, since the true position of alcohol as a medicinal agent has of late been so conclusively shown. That instead of being a stimulant and supporter of animal life it is a depressant, and is henceforth to be classed as an anesthetic and not a stimulant.

Mr. Neison, whose paper we have previously referred to, was an actuary of London and a high authority on statistics and has, from a series of careful observations, deduced some valuable statistics regarding this subject of intemperance, which prove that the average duration of life after the commencement of intemperate habits is among beer drinkers 21.7 years, of spirit drinkers, 16.7 years and among those who drink beer and spirits indiscriminately 16.1. He framed the annexed table of expectancy of life.

Age.	Temper- ate.	Intem- perate.	Loss of Life.	Per cent. of duration of life of Intemperate as com- pared with Temperate.
20	44.2 yrs.	15.5 yrs.	28.7 yrs.	35 per cent.
30	36.5 yrs.	13.8 yrs.	22.7 yrs.	38 "
40	28.8 yrs.	11.6 yrs.	17.2 yrs.	40 "
50	21.2 yrs.	10.0 yrs.	10.8 yrs.	51 "
60	14.3 yrs.	8.9 yrs.	5.4 yrs.	63 "

It was noticed that professional men addicted to drunkenness are shorter lived than drunkards in other pursuits. The influence of marriage upon longevity is a well established fact. Few unmarried centenarians will be found. The results of the observations of Dr. Guy were stated as follows: Mean average of married 66.7 years, of unmarried 62.0 years.

The superior longevity of the farmer over all other vocations is shown in all the tables of those who have made the subject of longevity a study. The following verse well portrays some of the causes that make the farmer's life more favorable to longevity.

"From toil, he wins his spirit light,
From busy day, the peaceful night;
Rich, from the very want of wealth
In heaven's best treasure, peace and health."

In the official registration report of Massachusetts for 1843 to 1866 the average age of the physicians who died during those years, 820 in number, was 55.84, a lower rate than Dr. Guy found in England, which he arranged in three classes, the lowest 67.04, the highest 72.95. The Massachusetts table gives that of lawyers 56.21, judges 66.38, clergymen 57.79, the judges being the highest in the list of sixteen different professional pursuits. Few physicians survive to extreme old age, but as a class they enjoy a comparatively long career, despite the risks of contagious diseases and the arduous nature of their duties.

Lieut. J. W. Maclay, in an essay on "The Relation of the Different Professions and Vocations to Longevity," published in 1873, divides longevity into normal and abnormal; the former denotes the average length of life and the latter advanced or extraordinary longevity. The average of life varies with the habits of the people as regards morality, industry and civilized culture. Ancestral history, as we stated at the beginning of this article, is of the first importance—if a good constitution has been inherited, long life is almost assured if ancestors were long-lived. There are many influences that affect the duration of life, *e. g.*, habits, vocation, residence, health and intelligence. Judges are long-lived not because their vocation is particularly favorable, but the inherited vigor that gives them judicial qualities enables them to bear the strain which short-lived persons would neither undertake nor sustain.

Statistic tables often fail to prove what they claim because they include in their averages such different kinds of persons, and thus mislead the student from noticing real causes and deductions.

The London *Lancet* of January, 1886, states as follows: "The weaker will sometimes prove himself the more tenacious of life by observing rational methods of living, of which the more robust is careless. Moderation has probably more to do with success in this respect than anything else. To eat sufficiently and drink stimulants sparingly, to alternate work with adequate rest and to meet worries heartily, will afford to every one the best chance of arriving at a ripe old age."

Dr. Wm. Ogle, Superintendent of the Statistical Department of the Registrar General's Office, read a paper on "The Mortality of the Medical Profession" before the Royal Medical Chirurgical Society in Lon-

don in January, 1886, from which I shall quote liberally. The census of 1881 showed that there were in England and Wales physicians, surgeons and general practitioners 15,091, and after the census was over, the causes of the death of all males aged 15 and upward in England and Wales during the three years 1880-82 were abstracted from the National Death Register, in combination with the occupation of the deceased persons.

The results of this process as regards the mortality of medical men was to show that their mean annual death rate in those three years was 7.40 per 1,000 between 20 and 25 years of age, 11.57 between 25 and 45, 28.03 between 45 and 65, and 102.85 per 1,000 at 65 and upward.

Dr. Ogle compares the mortality of medical men in those three years with that of men engaged in other pursuits, and gives a table showing the annual death rate in a number of different professions and trades. Each of the rates is calculated for 1,000 males aged upward of 20 years with the same age distribution as the medical profession. The death rate of medical men is shown to be far in excess of that of other professions. Thus, the death rate is 15.93 in the clerical profession, 20.23 in the legal profession and 19.90 in the scholastic profession, while in the medical profession it is 25.53. The rate in the medical profession is not only higher than in any of the other learned professions, but also compares unfavorably with the rates in most other trades and industries, and is indeed only exceeded by the rates in certain trades and occupations that are notoriously unhealthy.

Having established beyond doubt the fact of the marked excess in the mortality of the medical profession, Dr. Ogle proceeds to consider what are the causes to which this excess is attributed, or rather what are the diseases under which it occurs. This information has been derived from copies of the entries in the Death Register relating to the death of 3,865 medical men during the years 1873-82 forwarded to the General Medical Council in accordance with legislative enactment for the due correction of the Medical Register. Dr. Ogle's information based upon these facts is, as he asserts, unique in character. No similar information, unfortunately, exists for any other profession or industry. The number of deaths dealt with is fairly large. The deaths were spread over a period of ten years and they occurred in all parts of the country; they may therefore with full confidence be accepted as a fair sample of the causes of death of medical men. The 25,535 deaths estimated to occur annually among 1,000,000 medical men are therefore assumed to be caused by the various diseases in the proportion shown by the classification of the causes of the 3,865 deaths. The result of this distribution gives the annual death rate per 1,000,000 medical men from each cause of death dealt with.

A table is appended giving side by side with these death rates from the several causes among medical men, the rate for the same causes among all males in England and Wales, irrespective of occupation, and duly corrected for differences of age distribution. The result of this comparison is to show that, with very few exceptions, the mortality of medical men is higher from every disease or group of diseases than is the mortality of males generally. Under some of these headings the medical mortality is twice or thrice or even more times greater than the average. Passing over Dr. Ogle's comparison of the mortality from the

various diseases we notice the death rate from suicide, which is 363 per 1,000,000 among medical men against an average of 238 for all males, and it is further pointed out that the tendency to suicide is increasing in the medical profession, whereas no corresponding increase is shown in the figures for the general male population. In order to facilitate a comparison between the death rates from suicide in the three principal professions, legal, clerical and medical, the annual rates were specially calculated for the six years 1878-83; they are given as 128 for the clerical, 354 for the legal and 464 for the medical profession.

In the *Medical and Surgical Reporter* for February, 1881, I find it stated that Hecker's statistics confirm the fact that the duration of the life of medical men is notably less than the mean.

Dr. Escherich's tables show that in Bavaria of 100 men in each vocation, 53 Protestant pastors, 41 professors, 39 advocates or magistrates, 34 Catholic priests and only 26 physicians reach the age of 50.

Kayser finds in the region of Breslau the average age at which physicians die is 56 years, priests 58, professors 59, higher office-holders 64, apothecaries 64 and lawyers 64.

Hufeland, who wrote his work on "The Art of Prolonging Life," 100 years ago, in 1796, in writing of the longevity of physicians says: "Physicians, who so abundantly dispense to others the means of health and life, ought to claim here a distinguished place, but unfortunately this is not the case. It may be said of them in general, in serving others they are consumed, in healing others they are destroyed."

"At any rate," he says, "mortality is greater among practicing physicians than perhaps among men of any other profession. They have the least opportunity of observing those prudential rules and precautions for preserving health which they lay down to others; and there are few employments in which the powers both of the body and mind are exposed to so much consumption as in this. Head and feet must be always exercised in common. But the greatest mortality prevails during the first ten years of their practice. A physician who has fortunately withstood that period, attains to a certain strength of constitution, a kind of insensibility to fatigue and the causes of disease; by custom, noxious effluvia and the poison of infectious disorders become less prejudicial, and he acquires more indifference for the heart-melting scenes of woe and the numberless miseries, the consequences of vice and moral evil, which his business condemns him to be a daily spectator of; and thus a physician who has luckily passed his time of probation, may become an old man. A striking instance of this is afforded by our predecessor, Hippocrates, who lived to the age of 109. His whole life was employed in the study of nature, in traveling and in visiting the sick, but he passed more of his time in small villages and in the country than in great cities."

I have noticed a statistic table prepared by order of the legislature of Massachusetts at some time previous to 1858, which shows that the average age of physicians in that State was somewhat higher than that of the legal or clerical professions: Physicians 54.94, lawyers 54.43, clergymen 52.40, agriculturists leading the list at 63.93.

Dr. S. H. Freeman, president of the New York State Medical Society in the year 1858, in his annual address on "Human Longevity," was doubtless encouraged from a study of this Massachusetts record

to give expression to the cheering assertion "that the vocation of the physician though perhaps exposed to the severest vicissitudes and trials, in wearisome days and anxious nights, is not unfavorable to longevity; for medical men, from the general activity of their profession, their knowledge of the causes which promote health, and the wholesome exercise of the mind and body, are often enabled to enjoy long lives of active beneficence in dispensing those grateful charities, 'that cheer and soothe and bless.'"

According to Dr. Jarvis' tables, the average duration of the lives of physicians is 56 years. Consequently a physician who begins practice at the age of 24, his active profession life will be 32 years.

The Massachusetts Medical Society published a list of their members who died in 1870 and 1871, thirty-seven in number. The ages of thirty-two are given, averaging 60½ years, the extremes being 28 and 84. This, as well as the previous record from Massachusetts, gives a longer tenure of life than common opinion allots to our profession. My old friend and beloved teacher, Prof. E. R. Peaslee, who died at the age of 64, in an address in March, 1851, before the Medical School of Maine, at Brunswick, said: "The constant exertion of body and mind in medical practice, actually renders the average of life several years less in medical than in the other two professions." He quotes statistics for 1846 collated by the State of Massachusetts, giving the average of deceased clergymen 64 years, of lawyers 59 and of physicians only 47 years.

Dr. Casper, of Berlin, in 1834 deduced from statistics the following longevity of different callings: To 42 theologians that attained the age of 70 and upward there were agriculturists 40, commercial men 35, advocates 29, artists 28, teachers and professors 27, and physicians only 24.

M. Quetelet in "A Treatise on Man," Edinburgh, 1842, remarks that it would seem to follow from the above table that mental labor is more injurious to man than bodily; but that the most injurious state of all is that where fatigue of body is joined to that of the mind.

The mortuary registration for the year 1839 in England gave the average ages of deaths of persons in the three professions as follows: Clergymen 59, lawyers 50, physicians 45. T. W. Higginson is responsible for the statement that "Prof. Pierce has proved by statistics that the best scholars in our colleges survive the rest; virtue like intellect doubtless tends to longevity."

Dr. G. W. H. Kemper, of Muncie, Ind., in the *Indiana Medical Journal* of February, 1895, in an article on the "Longevity of Indiana Physicians," states that he found in the "Transactions of the Indiana State Medical Society," from 1880 to 1894 inclusive, 213 deaths of physicians recorded. These were representative men of the medical profession in that State, and their ages, in the opinion of Dr. Kemper, gave a fair estimate of the longevity of our profession. Of these 6 died in the twenties, 29 in the thirties, 49 in the fifties, 62 in the sixties, 33 in the seventies and 9 in the eighties. The ages of the octogenarians were as follows: Four reached 80, one 81, one 82, one 83 and two reached the highest, 88. The 213 persons lived 12,088 years, which gives an average of 56 years and 9 months to each person. Three of them met violent deaths at comparatively early ages, two having been run down by railway

trains and one assassinated; but for these accidents Dr. Kemper states the report would appear better.

Dr. Salzmann, of Essling, Germany has made a study of all the available facts regarding the longevity of physicians to be found in the records of his country, going back as far as to the sixteenth century. In that period the life of the medical man was 36.5, in the seventeenth 45.8, in the eighteenth 49.8, and in the current century 56.7. The comment is made that the increased life rate is the result of the growth of preventive medicine, and especially those measures that have reduced the extension of smallpox and contagious fevers.

At a meeting of the Illinois State Board of Health (the date of which I have been unable to obtain), Dr. John H. Rauch presented a report upon the mortality rate and causes of death among physicians. The paper contains many facts of interest. Dr. Rauch's observations are based upon data accumulated in the ten years preceding his report, regarding Illinois physicians. He finds that the average duration of life among them is lower than is usually supposed to be the case among physicians, viz., 52 years, and that only 11 out of every 100 reach the scriptural limit of three score and ten. During those ten years under observation there had been about 6,000 physicians living annually in the State, among whom there were annually about 80 deaths, giving an annual death rate of 13.3 per 1,000. We will not quote the table published with his report, which shows that the death rate among physicians in the earlier part of their practice is lower than among males generally, or even in the general population. After the age of 40, however, the death rate is proportionately greater, and after the age of 60 it is higher than in the general population. The doctor after he gets to be 40, therefore, should be more than ordinarily careful, for his chances of life are less than those of his neighbor. With regard to the causes of death Dr. Rauch gives tabulated statistics, and adds: "Of the grouped causes of death, consumption, diseases of the respiratory organs (including 91 from pneumonia) and Bright's disease caused 268 deaths, or more than one-fourth of the total. If to these be added a share of the deaths from diseases of the heart, the sequelæ of rheumatism, a fair estimate may be made of the effects of exposure to the vicissitudes of weather upon the wear and tear of medical life. As a result of mental strain and anxiety, of insufficient, irregular and interrupted sleep and similar causes in the total of deaths from diseases of the brain and nervous system, embracing forty-three from various forms of paralysis. In the group of zymotic diseases (enteric fever given separately) there were five deaths from diphtheria, one each from smallpox and yellow fever and eight from traumatic infection (septicemia, etc.), all contracted from attendance upon patients.

Less creditable to the *morale* of the profession are the eighteen deaths from overdoses of opiates and narcotics, the seven admitted suicides and the deaths from alcoholism, direct and indirect, twelve of the former and at least eight of the latter."

Dr. J. L. Kortright, in the *Brooklyn Medical Journal* for June, 1895, has an article on the causes of death of medical men in Brooklyn and New York for the years 1884 to 1892 inclusive. The mortuary statistics includes 450 physicians. The average of age at death was 54.6. He does not publish the entire table of diseases but states that a large proportion of

them may be classed as accidental and in no way dependent upon the pursuit of the practice of medicine. The startling announcement is made that the mortality from suicide among physicians is four times that of other adult males. In most cases death was caused by poison. Frequently the suicide was unintentional and resulted from an accidental overdose on the part of some victim of a drug habit. Pneumonia furnishes a large death rate, which would be expected when we consider the exposure to inclement weather and night air incident to the practice of our profession. Bright's disease, apoplexy and various forms of heart disease are grouped together as all having common pathologic conditions, viz., arterial sclerosis and degeneration of the muscular fibers. The mortality from these causes was 35 per cent., whereas the usual death rate from these causes among all male adults is only 25 per cent. Arterial sclerosis was a cause of over a third of all the mortality. In concluding his article Dr. Kortright gives the following sage advice and warning: "The lesson, then, that we should learn from our deceased colleagues is not to work too long. When you find your arterial tension increasing, your temporal artery becoming tortuous, your radial growing hard, especially if you have a little palpitation and pass an increased amount of limpid urine, whatever your years, know that old age is upon you. Henceforth shape your life like one that is old. Curb your ambition. Be content with a small practice. Reduce your expenses. Give up your night work. Decline confinements. Take a long vacation in summer. Retire early. Eat abstemiously. Drink not at all. Sell your horse. Take a great deal of moderate exercise in the open air. Watch the functions of the skin. Guard against a chill. Cultivate an even disposition. Study to be quiet."

I have nothing but commendation for what the doctor evidently means in these laconic sentences and yet it seems to me that at least two of them need a little qualification or amplification. "Sell your horse" means, I presume, so that you will get more exercise in walking, but some patients would be too far distant to visit on foot, and after sufficient exercise on foot driving is both healthful and pleasant. The other sentence, "Drink not at all," leads me to think that Dr. K. is a Kentuckian, as I recall reading the experience of a traveler in Kentucky who on a hot day, weary and parched with thirst, stopped at a house by the roadside and asked the resident if he could give him a drink. The reply was, "I am very sorry, my dear sir, but I have not anything to offer you." "Why," said the traveler, "is not that a well?" "Oh, yes; yes; you can have all the water you want, but I thought you *wanted a drink*."

Dr. E. J. Marsh, in an address on longevity delivered before the Medical Society of New Jersey, of which he was President, in June, 1892, states that the medical profession does not stand high in the list and the mortality is great in comparison with that of other professions. The hard physical work, the exposure to vicissitudes of weather and the contagion of diseases, the disturbance of regular hours of sleep and food, the mental strain and anxiety from responsibility for life or death are all prolific causes of sickness or of premature decay. The dangers and burdens fall chiefly upon the young men and those in the prime of manhood and when this stage of life is safely passed the mortality of physicians approximates the average for the other professions.

Of 89 presidents of the New Jersey State Medical Society whose deaths are recorded in the "Transactions," 24 died under 60 years of age, 34 between 60 and 70, 20 between 70 and 80, 10 between 80 and 90, and 1 at 93. At the date of Dr. Marsh's address Dr. Enoch Fithian, of Greenwich, N. J., had passed his centennial birthday. Dr. Holyoke, of Salem, Mass., practiced his profession for seventy-five years, and even after his hundredth birthday was consulted and gave medical advice. A statement was published in April, 1895, that Dr. de Bossy, the oldest of French physicians, was born in 1793, that he had never been ill and was still in active practice in Havre. He rises at 7, summer and winter, and as soon as dressed starts on his rounds, usually on foot. He attributes his longevity to moderation in all things. His father lived to be 108, and in that fact more than to his own conduct do I attribute this long life of the son.

Dr. William Salmon now living in Glamorgan, England, entered his 107th year March 16, 1896. He is still in excellent health. His father was also a physician. He derives deep pleasure from the faith that he is the oldest justice of the peace, the oldest physician, and the oldest freemason in the world. and Gladstone, who is young enough to be his son, sends him a birthday telegram every year, with his sincere wishes for here and hereafter.

The most remarkable instance of longevity that ever came under my own observation was that of a hale farmer, Samuel Vann, living in the town of Ulysses, Tompkins County, N. Y. He was born in New Brunswick, N. J. He was never ill, so far as I have been able to learn, until a few days before his death. He walked about the country, going frequently several miles in a day, until just preceding his death, which was some acute disease, I should think peritonitis, from what I have learned about it. He retained full possession of all his faculties, transacted all his business personally and gave no indications of such advanced age. Hon. Irving G. Vann, recently appointed by Governor Morton as one of the Judges of the Court of Appeals, is a grandson of Samuel Vann, who died March 19, 1877 after he had entered upon his 107th year. I saw a man 108 years old, but he was confined to his bed and as helpless as an infant. He was the father of Rev. Marshall, a Baptist clergyman living at that time in Covert, N. Y.

Shepard Homans, the great life insurance actuary, in 1891 published some matters of great interest in reference to longevity in general. He says man grows 20 years and his natural limit of life is 100 years. It has been found that the natural limit of life in all animals is about five times the period of their growth or complete development. Thus the camel grows 8 years and his natural life is 40; the horse grows 5 years and lives 25; the ox grows 4 years and lives 20; the dog grows 2 years and lives 10; and the hare grows 1 year and lives 5.

Buffon states: "That the man who does not die of accident or disease lives everywhere to 90 or 100 years of age." Hufeland says: "Nearly all those deaths which take place before 100 years are brought on artificially, that is to say, by disease or accident." Dr. Farr in the Sixteenth Annual Report of the Registrar General of England says: "The natural term of human life appears to be 100 years." Finally the prophet Isaiah says, lxxv, 20: "There shall be no more thence an infant of days, nor an old man that hath not filled his days; for the child shall die an 100 years old." The

extreme limit of life, Homans states, appears to be about twice the natural term or limit. Thus instances have occurred of man living to 200 years, or very nearly; and Buffon relates with much minuteness the history of a horse that lived 50 years. "How are we to account for the ages recorded in Genesis," says Homans, "of Adam, his sons and Methuselah?" "We can not disregard the teachings of science, nor need we doubt the statement in Holy Writ. Each has Divine authority. By what theory can we reconcile the two. Simply that the year or unit of time among the early patriarchs differed from that adopted since the Deluge, which has been twelve calendar months." Hensler, a high authority, shows the strong probability that the years till the time of Abraham consisted of three months only; that it was afterward extended to eight; and that it was not until the time of Joseph that it was made to consist of twelve. These assertions Hufeland (1796) states are in a certain degree confirmed by some of the Eastern nations, who still reckon only three months to the year, and besides it would be altogether inexplicable why the life of man should have shortened one-half immediately after the flood. It would be equally inexplicable why the patriarchs did not marry till their sixtieth, seventieth and even one hundredth year; but this difficulty vanishes when we reckon these ages according to the before mentioned standard, which will give the twentieth or thirtieth year, and consequently the same periods at which people marry at present. The whole therefore, remarks Hufeland, according to this explanation, assumes a different appearance, and with the period of Abraham, we find mention of a duration of life which can still be attained and which no longer appears extraordinary, especially when we consider the temperate manner in which the patriarchs lived, and therefore we reach the comforting assurance that man can still attain to the same age as ever. I have made diligent inquiry to verify the above statement, but have been unable to find any corroborative evidence that any Eastern nations now or ever have had years less than twelve months, which was the Jewish year not only, but also the Egyptian. I am surprised that this important statement from so high an authority should have passed unchallenged so many years, as Erasmus Wilson, F. R. S., published the translation of Hufeland's *Art of Prolonging Life*, in 1853, and as late as 1891 Shepard Homans refers to it as a very satisfactory explanation of what would otherwise seem difficult of comprehension.

In recently looking over the transactions of our (N. Y.) State Medical Society, it seems as though I was walking through a graveyard where were buried a host of my medical friends or acquaintances, and that on every side of me were the headstones or monuments recording their names, ages and brief notices of their earthly labors and the professional honors which they had won during their active professional lives. Each and every volume of the *Transactions* contained obituaries of former members read by surviving professional brethren who in turn, soon after, or at least many of them, lay down the burden of life and were represented in later volumes by some medical friend presenting their obituary memoirs. I was much surprised on reading these memoirs to notice that most of these physicians died at an earlier age than I had supposed, though at the time of their death I knew their ages, yet somehow in the lapse of time that had occurred I had retained an impression that

they were older men than the published records now show they were. Some of them were privileged to have the poet's wish:

"To glide my life away! and so, at last,
My share of duties decently performed,
May some disease, not tardy to perform
Its destined office, yet with gentle stroke,
Dismiss me weary to a safe retreat
Beneath the turf that I have often trod."

Others were summoned by long and painful maladies, yet were

"Sustained and soothed
By an unfaltering trust."

"The air is full of farewells to the dying and mournings for the dead, but our ears are so dulled by the iterated sounds that their dread import rarely reaches our hearts, unless on occasions when we are appalled by the intrusion of death stalking into our own households, or invading the circles that embrace those with whom we are accustomed to associate, and whom we hold in regard for qualities that have endeared them to our hearts and capacities that have commanded our admiration."

Whilst passing in review the life and character of many professional friends and acquaintances of former years, and as I have scanned the death record of the past for the facts here recorded, the solemn words of Daniel Webster have come forcibly to mind, for he left on record his deliberate convictions regarding professional fame in these words:

"Professional fame fades away and dies with all things earthly. Nothing of character is really permanent but virtue and personal worth; these remain. Whatever of excellence is wrought in the soul belongs to both worlds. Real goodness doth not attach itself merely to this life. It points to another world. Political or professional reputation can not last forever; but a conscience void of offence toward God and man is an inheritance for all eternity."

In bringing to a close this compilation of what I have been enabled to secure upon this interesting subject, I desire to state that I have no doubt that there is much in print that I have failed to find, not having had an opportunity to visit any of the large libraries of our cities while preparing this article. Nevertheless, I trust that some one else will, by reading what I have collected, be prompted to supplement my article with fuller details and statistics from other sources. It would not be a very tedious task for the secretary of every medical society to tabulate from the mortuary records of its members a table and statistics of real value and interest. And every State and city of our country that has a system of recording the vital statistics could furnish much material for a paper on the longevity of physicians. Our State of New York has these records since 1880, but in a recent correspondence with Dr. B. F. Smeltzer, the Secretary of the State Board of Health, he states as follows: "It is regretted that the information you desire has never been tabulated; the records, however, are at your disposal at any time you wish to consult them or send a representative to this office for that purpose, when we would be pleased to aid you in securing the desired information."

To the older members of our profession I desire to speak words of cheer, for old age has opportunities for usefulness equal to any period of life. The veterans in medical practice have solved many problems that the younger practitioners are still wrestling with.

Experience is the most efficient teacher and one whose lessons are least likely to be forgotten. How many visionary theories have been traversed and found baseless; how many lessons taught us by honored professors have proved of little value; but the lessons we have learned from practical experience and careful observation, repeatedly tested, have proven to be an anchor to our souls when we have been tossed upon the waves of tempestuous controversy and adverse criticism. We find solace often in that couplet:

"One self-approving hour whole years outweigh,
Of stupid stargers and of loud huzzas."

If confident that we are correct in our diagnosis and procedure, we may calmly rest while the hurricane of discordant criticism may roar about us. Longfellow thus encourages old men, and these words should give inspiration to every member of our loved profession on whom the infirmities of age are resting.

"But why, you ask me, should this tale be told
To men grown old, or who are growing old?
It is too late. Ah! nothing is too late
'Til the tired heart shall cease to palpitate.
Cato learned Greek at eighty; Sophocles
Wrote his grand *Œdipus*, and Simonides
Bore off the prize of verse from his compeers
When each had numbered more than fourscore years;
And Theophrastus, at fourscore and ten,
Had but begun his *Characters of Men*.
Chaucer at Woodstock with the nightingale,
At sixty wrote the *Canterbury Tale*:
Goethe at Weimar, toiling to the last,
Completed Faust, when eighty years were past.
These are, indeed, exceptions, but they show
How far the Gulf stream of our youth may flow
Into the Arctic regions of our lives,
Where little else than life itself survives."

A PRACTICAL OPHTHALMOSCOPE.

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The Sight-hole.—The principal use of the ophthalmoscope is to enable us to study the interior of the eye. The use of its lenses for the measurement of refraction is of much less importance. In most of the forms of the instrument employed in this country its principal use has been somewhat sacrificed to assist its less important function. To measure refraction with the ophthalmoscope it is necessary by using a large sight-hole to exaggerate the blurring caused by imperfect focusing. For the other uses of the ophthalmoscope this blurring should be reduced as much as possible. It can not be entirely corrected by lenses, because in all eyes, with the pupil dilated as in a dark room, there is irregular astigmatism which no lens can correct. Such blurring is reduced directly in proportion to the reduction in the size of the sight-hole; hence, the most distinct view of the details of the eye-ground is only to be obtained through a small sight-hole.

Again, one of the chief obstacles to obtaining a view of the fundus is the reflection of light from the surface of the cornea. The reflection gives rise to a minute image of the source of light apparently situated a few millimeters behind the cornea; and, therefore, so close to the surgeon's eye that the light from it falls on his retina in a circle of diffusion. The size of this circle is directly proportioned to the size of the sight-hole in the ophthalmoscopic mirror, through which the light is admitted. If this circle be larger