

towns, owing to the excellence of the details that have been observed in their planning, are, as a rule, as robust and as strong as those of the country.

The diminishing rate of both marriages and births seems to be a matter of much concern. "The serious decrease of the birth-rate in this country [England] is intimately connected with physical degeneracy on the one hand and with the responsibility of our profession in its prevention on the other. There is a decrease in both birth-rate and marriages in all the countries of the world except Ireland, some parts of Spain, of Austria and Russia. The exceptions are due to the stronger religious beliefs held in these places regarding marriage and its objects. The birth-rate per 1,000 of population in Manchester was in 1907 only 28.3; in 1871-75 it was 38.9; in 1881 35.9; in 1891 33.8 per 1,000. Manchester is by no means worse than other towns. In Nottingham during the last 25 years there has been a fall in the birth-rate of 30 per cent."

SMOKING.

J. D. Mann¹ discusses the effects of excessive smoking. He shows that the results of smoking are essentially those of nicotin poisoning and the absorption of nicotin can take place both from the smoke and from the contact of the tobacco with the mucous membrane of the mouth as well as by the absorption of tobacco through the skin when the moistened cigar or cigarette is held in the fingers.

The effects of tobacco are divided into stages, although no distinct dividing line can be drawn, the poisoning being a progressive one. *The symptoms of the non-organic stage* are thus described:

"The first group—in which there are no indications of organic disease—comprises those cases which are most frequently met with; but, as the symptoms are often irregular in their appearance, the true cause of the ailment may easily be overlooked. The patient usually attributes his symptoms to indigestion, which he says gives rise to flatulence, and causes palpitation of the heart. He generally lays great stress on the latter symptom, and this

(1) British Medical Jour., Dec. 5, 1908.

ought to arouse suspicion. He complains that this palpitation wakens him in the middle of the night, when he finds that his heart is beating violently, and that he feels restless and uncomfortable, and that he cannot go to sleep again until the heart has quieted down. Or perhaps he says that the palpitation prevents him going to sleep when he first lies down in bed. A 'sinking sensation' in the cardiac region is often complained of, which is probably due to gastric catarrh. He may feel a sense of irritation of the pharynx which causes him to cough or to clear his throat frequently. It is only in the more advanced cases that the patient spontaneously refers to his vision as being less acute than formerly, and that objects appear as though seen through a misty atmosphere. On being questioned, however, some such complaints may be evoked; he may add that he can see better in the partially obscured evening light than in the full glare of noon. Defect of near-sight is sometimes observed. Blunted color perception when the light is feeble is not infrequently an early symptom."

On physical examination we find the tongue often coated; the fauces hyperemic and the stomach probably dilated and filled with gas. If the arms are held out horizontally in front, the fingers or the hands frequently show some indications of tremor. The heart is usually dilated, possibly only slightly so. The pulse-rate is accelerated and the cardiac impulse is greatly exaggerated. At this stage, other physical cardiac signs will probably be absent. The action of nicotin on the heart was experimentally investigated by Esser, who found that, after repeated injections of small doses of nicotin into dogs, the cardiac muscle remained intact; and that the derangement of the heart's action was due to pronounced degeneration of the vagus. Kose attributes the quickening of the pulse to paralysis of the vagus and excitation of the sympathetic, the accelerating fibers of which subsequently become paralyzed, and then the pulse-rate becomes slower.

"The most convincing diagnostic indication of chronic nicotin poisoning is afforded by the alterations in vision. The field is sometimes concentrically contracted; but of much greater importance is the presence of a scotoma for red and green, either partial or complete; the latter is

only met with after prolonged excessive smoking. The scotoma lies horizontally between the macula and the blind spot, and is more toward the temporal than the nasal half of the field. Green vision is the first to be affected, and is the last to return. The ophthalmoscope does not afford much information, although Bär states that reddening and tumefaction of the papilla is typical of the early stage of tobacco amblyopia. Tachycardia frequently occurs in nicotin poisoning without the eye symptoms; in some instance amblyopia is met with without tachycardia, or they may occur together. Tachycardia alone is the most common."

In regard to the organic changes produced by tobacco, both experiment and clinical observation show that it produces arteriosclerosis and the heart changes which accompany it. Tobacco sometimes produces a painless heart failure which in some instances is fatal.

The effects of tobacco vary somewhat with the constitution of the individual, but while some live to old age in spite of excessive use of this poison this fact can not be urged against the evil effects produced in less fortunate cases.

"It is obvious that with all physiologically active substances the question of degree is largely determinative of the results produced by any agency that is capable of affecting the health. Most men, if they choose to smoke, can do so within certain limits without injuring their health; some men can exceed such limits with apparent impunity. The extent of the limitation must be determined by each man for himself, and if he is wise he will keep well within the border-line and will hold to his resolution. Here lies the difficulty; the growth of a habit overrides discretion. The habit of excessive smoking is more insidious in its development than that of excessive drinking, for the results are much less obvious. An alcoholic may be appealed to by his friends or admonished by those in authority; this rarely happens to the adult smoker, unless he consults his doctor about 'indigestion and palpitation' and admits that he smokes to excess; then probably the necessary warning will be given."

ALCOHOLISM.

Classification. W. House¹ divides cases not into acute and chronic as is frequently done, but classifies them according to the type as follows:

1. Those who drink to excess daily or continuously—habitual drunkards.

2. Those who imbibe immoderately at intervals, to celebrate joy or drown sorrow, or under the guise of having a good time—periodic drunkards.

3. Those who, governed by irresistible impulse, mastered by overpowering drink-lust, absorb alcohol at more or less regular intervals, go through a distinctive disease process, satisfy a constitutional craving, and voluntarily or with assistance cease entirely the use of alcoholics until the next storm seizes them. These are called dipsomaniacs.

Heredity plays little part in the production of the ordinary drunkard, but those of the first type exhibit an acquired habit having no pathologic basis, while the second show more the operation of constitutional causes although the beginning of a debauch is well under control of the will. In the second class, however, the spree once begun is likely to continue almost without the possibility of voluntary control. House notes that persons who are not unfavorably affected by a debauch are likely to become victims of the second class. He says: "When an individual after a night's debauch awakens with a desire for a stiff drink, and when such a drink taken before breakfast is tolerable or gives relief from qualms of stomach or of conscience, he is possessed of or has created a susceptibility that endangers his welfare, and he had better for all time give up the use of alcohol in any quantity whatever. Mental weakness, defective judgment, neurotic tendencies, indifference to consequences, desire to drown sorrow or celebrate joy, all enter into the creation of the second form of habit. The habit of treating fosters and strengthens it.

"In the third form of alcoholism habit ceases to be of importance. Dipsomania has passed the realm of cultivated tendency, has slipped beyond the ill-defined border and

(1) Therapeutic Gazette, January, 1909.

is well within the domain of disease. As in many other diseases, its victim must pass through the phases from beginning to end. Each seizure paves the way and prepares for following seizures. Dipsomania is insanity. Its victim usually has premonitory symptoms of an attack and may make ineffectual attempts to evade it. More often he does not attempt to combat the tendency, rather seeming to increase the desire by pleasurable anticipation during a brief delay which seems but to whet the appetite. In the interval between debauches he is fully aware of his past mishaps and is certain that he can resist temptation when it comes. But as the crisis approaches he conceals the danger from himself, craves a single drink, takes it, and for the time being is lost.

"In dipsomania inheritance is of more importance than in either of the preceding forms. The parent or grandparent may have been a habitual or periodic drunkard, and as during the earlier hours of inebriety sexuality often becomes rampant, it is a question how many of these victims have reaped the curse of parental indiscretion through having been conceived during the height of intoxication.

"The climax of alcoholism is reached when the victim passes into that form of mental and motor agitation called delirium tremens. Its manifestations are familiar to all, and it is only mentioned here to state that in the habitual drunkard it often develops only after drink has been withdrawn, while in the other forms it appears at the height of the seizure. In this point is the chief reason for differentiating because of the influence on treatment. Rarely, withdrawal of drink from the dipsomaniac or periodic drinker also results in delirium."

Treatment. Prophylaxis. Proper teaching, good hygiene, good environment and the use of eliminants and tonics (which must not contain a trace of alcohol) are the chief requisites.

In dipsomania much can be done to prevent the onset of desire by careful attention to hygienic rules. The bowels must be kept open, cautious exercise taken, regular hours insisted upon. When the storm threatens, a calomel purge, a hot bath, a night's rest in the care of a trained

attendant occasionally help to such an extent that the battle is won. Each victory makes succeeding victories easier. Such as fail go into a debauch which lasts from 5 to 20 days (averaging 10 to 14), until, weak and trembling, with bowels constipated, kidneys disturbed, suffering from disturbed sleep and loss of appetite, the victim either breaks away or gets into such condition that the services of a physician are needed.

For the second indication, *cure of the habit*, much can be done by regulating the habitué's life either at home or, better, in a properly conducted institution where he can be watched. Every possible infirmity must receive attention and correction. Massage and electricity used judiciously serve to maintain a good standard of physical well-being, and are useful also for their psychic effects. Semidaily injections of gold and sodium chlorid can be recommended. Herein nothing is claimed of a specific nature, except that these injections satisfy the constitutional craving for tonic effects without the undue exhilaration which strychnin seems to produce. Proper encouragement, and the tiding of patients over one or two crises, will result in the cure of perhaps 75% of all patients who try this treatment faithfully, provided that at the beginning they are in reasonably good physical condition and free from organic lesions.

When at the height of a debauch medical attention is sought, the first indication is thoroughly to empty the intestines and the stomach. This is best done by the use of a large, high enema and the prompt administration of calomel, followed in 5 hours by a vigorous saline. Should the patient resist and threaten fight, especially if he is robust and powerful, 1/100 grain of hyoscin hydrobromate may be given in a glass of whisky, which he will only too readily take. Thirty minutes later this may be repeated if necessary. After the first or second dose most patients go to sleep, rarely requiring a third dose. During the drowsy stage they may be undressed and put in bed, and the enema given. A fight, with its consequences, more serious to the patient than to the attendants, may thus be avoided, and after a sleep lasting from 4 to 8 hours he will awaken tractable and easily handled. To get this

effect the hyoscin must be a reliable preparation, and this can be said of but few tablets on the market. A speedier effect can be obtained by its use hypodermically, if necessary.

To quiet the nervous and gastric symptoms, bromid and gentian are the most useful drugs, and may be given every 2 or 3 hours in the proportion of 15 gr. of the sodium bromid to a drachm of the compound tincture of gentian. Tincture of capsicum 10 to 15 minims in half a glass of hot milk every 2 or 3 hours is gratefully taken and relieves the desire for whisky. If the attack has followed the abandonment of whisky it may be necessary to combine whisky with hypodermic injections of strychnin.

House energetically protests against the use of chloral, which he regards as a dangerous drug. He is sure he has seen two or three cases in which chloral was the cause of death. The bromids, on the contrary, will, if given time, produce quiet without depression and may be supplemented by trional, sulphonal or veronal, especially the latter, with beneficial results.

According to L. W. Weber¹ the treatment of alcoholism has two objects: 1. The restoration of such degree of self control that the patient will become and will remain a total abstainer. 2. The treatment of the mental and physical results of the alcoholic poisoning. Fortunately both these objects can be attained even in very severe cases if the treatment is carried out in an appropriate institution. It is desirable that the family physician should be familiar with the principles of sanitarium treatment even if he is only occasionally required to apply them. The remedies usually recommended to assist in withdrawing the alcohol, such as atropin and strychnin, are not needed in these institutions. It is undesirable to give any narcotic in the course of removal of the alcohol, as such use favors the establishment of a habit in the unstable nervous condition of the alcoholic patient.

When a patient is received, as is frequently the case, in a condition of mild psychosis, such as delirium tremens, he should simply be watched but no drugs should be given unless necessary on account of the danger of heart failure.

(1) Deutsche med. Woch., Feb. 18, 1909.

Continuous warm baths and other sedative physical measures should be used with care on account of the danger of collapse. Plenty of liquid should be given in the form of some acidulated drink and to this some mild diuretic, such as sodium acetate, may be added.

Heart failure should be carefully guarded against. Besides avoiding narcotics, infusion of digitalis may be given and camphor resorted to if collapse is threatened.

In addition to the care of individuals Weber counsels the physician as philanthropist to maintain an active crusade to prevent the disease by a supervision of labor, by the withdrawal of predisposed or former drinkers from the reach of the alcohol industry, by improvement of the economic conditions, of the dwellings of the poor and of the laboring class, by restricting the factory labor of women in favor of their proper domestic occupations, by the formation of schools of domestic economy and of places of recreation unconnected with the sale of liquor.

LONGEVITY.

J. L. Nascher¹ calls attention to the fact that all our efforts to attain longevity have usually been confined to the period of degeneration. We have hastened the period of development and passed over the period of maturity with indifference and then when degenerations have already occurred have endeavored to lengthen the period of old age. The effort to prolong life should begin in childhood and youth by securing sufficient rest and allowing development to proceed slowly and steadily. We do not know how far osseous development is influenced by exercise, but we know that muscular development can be increased and adipose deposits decreased thereby. Gymnastics and mild exercises like walking and skating will bring this about as well as the more vigorous sports. The amount of sleep should be determined by need and inclination and not by habit or occupation. A meat diet imparts vigor, energy, activity and irritability, but a vegetarian diet produces the best built individuals and conduces to longevity. Since mental rather than physical vigor is

(1) N. Y. Med. Jour., April 17, 1909.

necessary in the battle of life, meat should be used sparingly and cereals freely during the development period. In the period of maturity the individual should avoid excesses and adapt his sleep, diet and recreations to his work. Mental labor requires physical recreation and *vice versa*. It is during the period of maturity that the arterial degenerations begin which cause degeneration of other organs and general decline. To prolong the period of maturity we must avoid those causes favoring arterial degeneration.

Psychic influences are powerful factors in warding off the feeling of age and in producing in many cases genuine rejuvenescence.

Of drugs phosphorus is the only one which produces a lasting mental stimulation without a depressant reaction. Alcohol favors atheromatous deposits, and its action is evanescent; cannabis indica, morphin, and cocain in minute doses increase mental activity, but in senility the system becomes soon habituated to them.

In many cases the feeling of being old is either psychic or the result of illness. When due to the latter cause restoration of health carries with it restoration of mental and physical activity. Changed surroundings, a sea voyage, or a stay in the country hastens such restoration, the main factor in such recovery being the effect upon the mind.

There are many psychic causes for quick aging. The moment a man is a grandfather, though he be but forty years of age, he suddenly feels old. Many men when they are placed in a responsible position involving life, lose their former buoyancy and lightness. Impending death, a secret fear, a great loss, a sudden fright have all produced sudden and permanent aging of the individual. Enforced seriousness and dignity tend to hasten age, while association with the young is a harmless mental stimulus. The lessened assimilation of the aged is partly due to changes in the digestive organs by which the sense of hunger and thirst is obtunded and an insufficient amount of food is taken to supply the waste. Meals should be more frequent and of easily digestible food. The author objects to green vegetables and to the articles of slight nutritive value often given such as jellies, broths, etc. The best form of exercise is walking up a moderate incline with frequent rests.

This should never be carried to the extent of fatigue, and the strain on the legs should be relieved and distributed to the arms by the use of a cane. Rubber heels make walking easier. The Nauheim system of saline baths with moderate exercise and massage is beneficial.

The aged apparently do not require as much sleep as in the earlier periods of life, but they do require frequent periods of rest. Slight fatigue is quickly overcome by rest, but exhaustion in the aged is more serious and takes much longer for recovery than at any other period of life.

In giving drugs in old age we must always bear in mind the atheromatous condition of the arteries with the resultant degeneration of the organs, the impaired circulation, and the changed power of assimilation. As a general tonic phosphorus is the only one that can be given to the aged indefinitely without creating a habit of aggravating existing conditions. Digestive stimulants such as the simple bitters, cinchona, and nux vomica may be given, also digestive aids, antifermentives and agents to relieve constipation. For the last indication calomel is best.

BIOTRIPSIS.

G. L. Cheatle¹ thus characterizes a condition of skin developing in old age on the most exposed parts although not wholly dependent on the action of external wear and tear. Cheatle lays special stress on the neurotrophic influences in accounting for the pigmentation and he calls attention to the fact that cancer is likely to develop in the same region as the biotriptic changes and that pigmented cancer is a most malignant variety. He thinks that the facts of biotripsis go to support the theory that neurotrophic changes are involved in the genesis, direction and limitation of the spread of cancer.

The biotriptic changes are observed commonly upon the backs of the hands, the temples and the foreheads of old people, but some of the changes have been seen upon the lower lips, cheeks, forearms and occasionally elsewhere. The skin becomes shiny, smooth, thin, inelastic, pigmented and apparently scarred, although the last cannot be ex-

(1) British Medical Jour., June 12, 1909.

plained by solutions of continuity of which there is no history.

The skin which shows the changes to best advantage is that which covers the second metacarpal bone and its immediate neighborhood. The skin is shiny, smooth, inelastic. The subcutaneous veins are almost subepithelial, there is a great degree of pigmentation, and there are in the most pigmented parts long radiating scars, which are more marked by loss of pigment than by the existence of cutaneous thickening. The condition is symmetrical; it is most marked in the region of the second metacarpal bone, and gradually fades away from this part. There is no similar change elsewhere on the hands. The tactile, heat and cold and pain sensations are not brisk, but it cannot be said that they are otherwise abnormal.

The condition very much resembles the bronzing of skin which has been subjected to prolonged exposure to the x-rays. It is interesting here to remark that the two conditions are similar in another respect, namely, they are prone to be the seats of cancer.

NECESSITY OF AUTOPSIES.

The following plea is made by J. T. Fox¹ for the habitual performance of autopsies in general practice:

"The great majority of us must surely often feel that as members of the scientific profession of medicine we at present often do let slip, from one cause or another, valuable and perhaps unique opportunities of adding to the knowledge of important facts upon which our science and art is built up.

"Some may say: There is abundant pathologic material in our hospitals, and such as the general practitioner could furnish is not missed. In reply I would merely instance three diseases which he has the most frequent opportunity of observing, and of the morbid anatomy of which he could supply specimens very valuable to the pathologist.

"1. *Hemiplegia*.—If the injured brain in all these cases could be handed over to the skilled neurologist after death—whether occurring soon after the vascular breakdown,

(1) *British Medical Jour.*, June 13, 1908.



PLATE VII.

BIOTRIEFSIS (LIFE-WEAR).

Hands of a 72-year-old woman; skin shiny, smooth and inelastic; subcutaneous veins almost subepithelial; much pigmentation with radiating scars; condition symmetrical. (Illustrating Dr. Cheatle's article; from *British Medical Journal*, June 12, 1909.)

as in most hospital cases that reach the *postmortem* room, or after months or years—together with notes of the symptoms, how much useful knowledge might be collected anent the localization of function, and the processes of repair in the brain! At the same time the examination of the vessels, hearts, kidneys, livers, etc., that served these brains might shed light on prophylaxis against these terrible accidents.

“2. *Cancer*.—Who knows but such specimens as the rank and file of us could contribute might materially hasten the solution of this problem?

“3. *Tuberculosis*.—Even the general public, so apathetic in most medical matters, are now roused to take part in the battle against this other great scourge. Might not light be thrown upon the relative success or failure of various systems of treatment if there were more general and accurate record of *quiescent*, *cured* and *latent* tuberculous lesions in various organs—for instance, where death takes place from other causes and, perhaps, no suspicion of tubercle was felt. I hope I have proved the desirability of progress in the direction spoken of; the practical point is “ways and means.” What methods can be set on foot, for instance, by our Association, to forward this work? I venture to suggest:

(a) A recommendation might be adopted and sent down to all our rank and file commending the practice.

(b) A grant of money might be made to provide some payment for the making of autopsies, and reporting records of the same under certain conditions. This might be more effective than the mere expression of a pious opinion.

(c) An organization for the collation of records and promotion of the work might be set on foot, something like that for the collective investigation of disease, perhaps.

(d) Co-operation and division of labor should be secured as far as possible. The help of specialists—pathologists, histologists and bacteriologists, should be enlisted. In urban centers a number of practitioners and hospital men might arrange to divide the chief fields of pathology between them. Thus, A might be observing the lesions of the alimentary canal, B of the brain, C cancer, etc.

“Backed by such an organization, it should be possible

for individual practitioners to secure many very valuable specimens of morbid anatomy and many useful pathologic observations, and also to get them utilized by our scientific leaders instead of lying buried in their case records."

BODY WEIGHT.

According to the *Journal of the American Medical Association*,¹ "The importance of over or underweight in an otherwise healthy adult is perhaps not sufficiently recognized by the profession. While tables of the average weight to a given height give sufficient range for individuality, they also show distinctly when an individual is overweight and when he is underweight. Between the ages of 15 and 25 the physician should rarely be satisfied to allow a member of a family in which he is professionally interested to remain underweight without careful investigation into its cause. It has been repeatedly shown that from the age of 15 to the age of 30, the age of greatest tendency to the development of tuberculosis, is also the age at which there is the greatest danger from underweight. In other words, the insurance statistics show that an underweight individual between these ages has a shorter expectancy of life than those of normal average weight. If each physician would individualize every such patient that he sees in the families of his clientèle he may ascertain some hygienic, occupation, or actual organic reason for such underweight, and if the cause is treated or prevented at a time when serious conditions are not present, not only will the patient's life be prolonged, but tuberculosis may be prevented. If a patient of underweight has lived to the age of 35, there seems to be less danger from his underweight causing a predisposition to disease. The age is then soon reached, after 40, of the danger from overweight, and from the age of 35 upward the expectancy of life diminishes the greater the amount of obesity.

"The danger from overweight seems to be due to the progressively greater necessity for a sedentary life, or, if exercise is actually taken, to the increased strain on the heart when the body performs the necessary physical exer-

(1) Oct. 24, 1908.

tion of ordinary exercise. It is self-evident that a heart must work much harder to take a man up-stairs when he is from 25 to 50 pounds or more over the average weight than if he was normal weight. If even this simple exertion is repeated for several years, it may be well understood why his life expectancy is shortened. Also, when an obese patient is attacked with pneumonia or must undergo some abdominal operation, even if his heart is not actually fatty, he again has his expectancy of recovery from these conditions greatly diminished. It therefore again becomes the physician's duty to arrange a diet or life for the individual when he is beginning to put on this surplus weight rather than to wait until the patient is driven to the physician by actual disability from such weight. Hence, in the treatment of underweight and overweight the physician should exercise the highest aim of the profession, viz., prevention of future disability."

In 1897 Dr. George R. Shepherd compiled for the Association of Life Insurance Medical Directors a table of height and weight for each quinquennium from 15 to 69, which was adopted by the leading insurance companies as being the standard.

HEIGHT AND WEIGHT AT DIFFERENT AGES.

Based upon an Analysis of 74,162 Accepted Male Applicants for Life Insurance, as Reported to The Association of Life Insurance Medical Directors, 1897.

Ages	15-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
5 ft. 0 in.	120	125	128	131	133	134	134	134	131	
5 ft. 1 in.	122	126	129	131	134	136	136	136	134	
5 ft. 2 in.	124	128	131	133	136	138	138	138	137	
5 ft. 3 in.	127	131	134	136	139	141	141	141	140	140
5 ft. 4 in.	131	135	138	140	143	144	145	145	144	143
5 ft. 5 in.	134	138	141	143	146	147	149	149	148	147
5 ft. 6 in.	138	142	145	147	150	151	153	153	153	151
5 ft. 7 in.	142	147	150	152	155	156	158	158	158	156
5 ft. 8 in.	146	151	154	157	160	161	163	163	163	162
5 ft. 9 in.	150	155	159	162	165	166	167	168	168	168
5 ft. 10 in.	154	159	164	167	170	171	172	173	174	174
5 ft. 11 in.	159	164	169	173	175	177	177	178	180	180
6 ft. 0 in.	165	170	175	179	180	183	182	183	185	185
6 ft. 1 in.	170	177	181	185	186	189	188	189	189	189
6 ft. 2 in.	176	184	188	192	194	196	194	194	192	192
6 ft. 3 in.	181	190	195	200	203	204	201	198		

Dr. Brandreth Symonds, in the *Medical Record*, Sept. 5, 1908, presents an interesting discussion of the expectancy of life of underweight and overweight adults and of the mortality figures of underweight and overweight individuals who have been accepted for insurance.

SHOWING THE PERCENTAGE OF DEATHS IN ALL CLASSES
AND SOME IN INDIVIDUAL DISEASES AMONG OVER-
WEIGHTS, UNDERWEIGHTS AND THE GEN-
ERAL EXPERIENCE OF THE MUTUAL
LIFE INSURANCE COMPANY.

Causes of Death	Over-weights	Under-weights	General Experience
Class I. General Diseases—Acute.....	9.67	9.28	8.90
Typhoid fever.....	4.00	3.06	3.94
Malarial fever.....	1.27	1.21	1.24
Influenza	1.47	2.04	1.00
Class II. General Diseases—Chronic.....	13.07	24.59	19.56
Tuberculosis	2.93	16.98	12.42
Cancer	4.40	5.57	4.18
Diabetes	3.40	0.65	1.25
Class III. Diseases of the Nervous System.....	19.08	12.16	17.44
Cerebral Congestion and Hemorrhage—Cerebral Softening, Paralysis.....	14.14	8.47	12.32
General Paralysis and other forms of mental alienation.....	1.80	0.84	1.30
Class IV. Diseases of the Circulatory System	16.01	11.69	11.85
Organic diseases of the heart.....	12.94	8.54	10.76
Class V. Diseases of the Respiratory System	8.54	15.78	11.86
Pneumonia	6.87	12.34	9.03
Class VI. Diseases of the Digestive System.....	10.61	8.54	10.19
Cirrhosis of Liver.....	3.47	0.65	1.00
Class VII. Diseases of the Genitourinary System	12.01	7.42	8.78
Bright's Disease and Nephritis	11.07	5.30	6.66
Class IX. Diseases of Skin and Cellular tissue	1.20	0.47	0.50
Class XI. Old age.....	None	2.04	0.50
Class XII. Violent causes.....	7.07	5.57	7.42
Casualties	4.20	3.43	5.21
Suicides	2.87	2.14	2.20
Class XIII. Ill defined	2.60	2.50	3.98

Pneumonia is nearly twice as fatal among underweights as among overweights, although the prognosis in pneumonia is usually regarded as more serious in an overweight than in an underweight. Taking these two factors into account, it would almost appear that overweights have a certain immunity from the pneumococcus, while the underweights are more than usually susceptible.

Cirrhosis of the liver is three and a half times as prevalent among overweights as in our general experience. This undoubtedly points to alcoholism, for statisticians generally consider that hepatic cirrhosis is a very accurate index of the alcoholic habits of a class. Among the underweights it is below the normal, as are also the other diseases of

the digestive system, thus showing their moderation in food as well as drink.

Bright's disease, both acute and chronic, is nearly twice as prevalent among overweights as in our general experience. This excess can probably be ascribed to the habit of overeating and overdrinking, which produces both the overweight and the Bright's disease. Among underweights it is a little below the average.

The effect of overweight is influenced by two fundamental factors: 1, the percentage of overweight; 2, age of the individual. The mortality increases markedly as the weight rises above 20% in excess, and to a still greater degree when the weight passes 30% in excess. This holds true for all types and all ages above 30 years. Beyond this period the mortality of overweights rises rapidly with the age and with the weight. In women the standard must be made a little higher than that of men, but with this allowance the effect of overweight among women is found to be just as bad as among men. As to underweight the effect is slight when the weight is not more than 20% below standard. The association of dyspepsia with underweight is a serious matter with those below 25 years of age, and has long been recognized as serious with a tuberculous family history, especially in the younger individuals. In women an allowance has also to be made as in overweight. Discussing causes of death of those suffering from overweight and underweight, he states that overweights suffer more than underweights in the class of acute general diseases. Overweight seems to secure a marked degree of immunity from tuberculosis. Organic diseases of the heart show a decided excess among overweights and as great a deficiency among underweights. Diabetics are scarce among underweights, but numerous among overweights. No overweight, whether man or woman, died of old age or senility according to Symonds' experience. He is convinced that the same percentage of overweights is more serious than if it were underweights, but in those below 25 years a moderate degree of overweight is more favorable than an underweight. The conditions are reversed above 30 years of age.