

have been most deplorable. Well, just that may occur now any day, and the danger increases as warm weather advances. Depend upon it, unless ample provision is quickly made for an adequate water supply, that evil day will overtake us as a thief in the night, and we may be literally overwhelmed with the calamity *a la* Chicago. Forewarned we should be forearmed.

But great as the danger to our material prosperity is from inadequate supply, the danger from a sanitary standpoint, owing to the impurity of the water, is immeasurably greater, especially so at this season of the year, and increasingly so as hot weather advances.

That two hundred thousand people should be daily supplied with water so largely impregnated with the foulest description of bay water that in appearance it resembles water that has been agitated over white clay or surface drift, is a most serious if not an appalling consideration. Our present water supply is full of the sources of disease; warmed, or allowed to stand for a short time it emits a fetid odor quite sickening to any human or animal sensibilities, except, possibly, those of the hog, and unless pure water be speedily obtained we cannot long escape terrible consequences in an outbreak of epidemics of typhus, typhoid fever and other zymotic diseases. When these shall come—as come they will, unless the causes of them are removed—let no one impudently charge the pestilential scourge to the "inscrutable ways of a divine Providence," but to the *imprudence, incompetency and bungling stupidity* of the management of the Toronto Water-works. The only part God will take in this matter will be bye and bye to sit in judgment upon the actions of those who have turned the engines of pestilence and death upon the people.

J. J. WESLEY SIMPSON.

MAN.

BY J. O. BARKETT.

A thinking lyre
That rapt him with a holy fire;
A soul whose pulses toned to love
Are heard and felt in realms above;
A kingly will, that armed with truth,
Re-flocks old age with reverent youth;
A bundle of constructing springs
To mould in beauty grosser things,
Evolved from alchemy's bonds to be
Death's victor angelized and free;
All nature blent in exquisite plan—
What else is man?

OLD AGE.

Dr. George M. Humphry, of England, has published the results of his inquiry into the causes affecting longevity, based upon information obtained concerning nine hundred persons over eighty years of age, including seventy-four centenarians.

In his general remarks the author points out that the current idea of development is associated with the periods of adolescence and maturity. It should not end there, but continue in a definite and orderly manner, though with lessening activity, to the termination of life. This is spoken of as "descending" development, and normally consists in the preservation of the relative proportions of the several structures, under the influence of a well-adjusted diminution of material and of nutritive activity. The author cites as an example the increasing lightness and brittleness of bone with age, proceeding *pari passu* with a narrowing range of muscular action, until a time comes when the machine stops, rather than is stopped by accident or disease, and old age terminates in natural or physiological death.

The requisites for longevity are found to be an inherent quality of endurance, popularly known as a "good constitution," derived, as the statistics show, rather from maternal than paternal sources, a steady, persistent, nutritive force, and a good proportion of balance between the several organs. More than fifty per cent. of the centenarians are women, and a greater number of the female sex attain an advanced age, notwithstanding the dangers inherent to the child-bearing period of life. The more pronounced healthiness of the female infant is not without its share in the production of longevity.

Dr. Humphry says that the greater proportion of cases are referred to be of long lived families, to have enjoyed good health throughout their lives, and those have been moderate or small eaters, especially in the matter of meat. They have generally been accustomed, too, to much out-door exercise. Let those who are peat up in an office for nine or ten hours a day, and then only creep home to rest a brain wearied with a surfeit of badly oxygenated blood, remember this,

and take a hint from the next point wherein our old friends excel, viz., early rising. Sleep should come early in the night, certainly before midnight, and healthy people should be able to wake at six and rise at once. With regard to general circumstances, it seems that those who are accustomed to live in comfort rather than affluence attain old age. Moderate drinkers and abstainers are well to the front, although in one or two instances some "have drunk as much as they could get," but from the very fact of their reaching one hundred years of age we are not disposed to believe that they ever could get much.

With regard to disposition, it is interesting to note how often the words "cheerful," "chatty," "amiable," "placid," "good tempered," "energetic" occur. Thus we find one dear old soul dancing on her 101st birthday, and another, Peggy Walsh, reputed to be 124, retained perfect hearing and such good sight as to be able to thread a needle without glasses. Surely the length of their days was not full of sorrow and labor. Vigorous mental labor appears, other things being equal, to predispose to length of days, a capacity for prolonged mental strain arguing great brain power. Happily old age is not often accompanied with dementia, although frequently some evidence of childishness appears.

It is important to note that there is only one instance of death of a centenarian from cancer. It seems that the liability diminishes from about 45 to 55 onwards, and that after 70 there is but little to fear in this direction. With reference to bladder trouble, arising from enlarged prostate, only seven per cent. were found afflicted, and it was found that after 65 was passed the liability becomes constantly less.

The remarkable preservation of the teeth is an object of common remark when skeletons of our forefathers are brought to light, and the conclusion is hastily arrived at, that we of the present generation have certainly degenerated in this respect. There may be some truth in this, but it must be remembered that such skeletons are those of people often cut off in their prime by battle or disease, and that nowadays a larger proportion of people attain to old age than formerly, thus allowing time for dental decay and loss to occur.

But after all as the author says, "length of life is to be really estimated not by the number of years so much as by good work done; not by the amount of time spent in the same, fruitless manner indicated by the pithy lines of Cowper,

'For fourscore years this life Cleora led,
At morn she rose, at night she went to bed,'

but by persevering efforts to promote the welfare and happiness of our fellow men."—*Popular Science News*.

SLEEP.

The condition in which we pass at least one-third of our lives is certainly one of the highest importance and interest, and it is, even with our present knowledge, not devoid of a certain amount of mystery. We know that in sleep the amount of blood circulating in the brain is considerably diminished, and it is, undoubtedly, the time when the waste of the nervous system is repaired, and a store of vital force—whatever that may be—laid up for the labors of the ensuing day.

The profound influence which the state of slumber has upon the human system, is evidence to anyone who has ever passed one or more nights without the presence of "tired Nature's sweet restorer;" and the feeling of strength, vigor, and well-being with which one awakens after a period of sound, dreamless sleep, shows that the restorative influence extends to every part of the body. The need of sleep is an imperative one, and, in many cases, is almost irresistible. Instances are on record of soldiers sleeping on horse-back, or even in the midst of a battle, and many a sentry has been sentenced to death for sleeping at his post, who was in no way to blame for his neglect of duty, but was simply overcome by a demand of Nature which he was unable to resist, even at the peril of his life. Similar instances are known of railroad engineers and steamboat pilots sleeping when on duty, with the knowledge that the lives of many others, as well as their own, depended upon their wakefulness.

The proper amount of sleep required by anyone is an individual peculiarity, and no general rule can be given. The new-born infant sleeps nearly all the time, but the periods of wakefulness soon grow longer, through childhood and youth, until the full-grown adult devotes a minimum time to the recuperation of his bodily energies, while in old age the need of more time for sleep is again felt. The feelings are the best guide in this respect, and if one awakes completely refreshed after six hours of slumber, that amount is doubtless sufficient for his bodily needs, while another person may require nine or ten hours of each day to restore the balance of vital profit and loss. Nothing, however, can be worse than to regularly deprive one's self of needed sleep, in order to have more time for work or pleasure. This is like expending one's capital instead of the interest, and although the final result may be postponed, it can only end in physiological bankruptcy.

The time for sleep is a particular consequence, and in large measure, of the darkness and quiet of night nature, but large num-

bers of people must, necessarily, reverse the usual practice and devote the daylight hours to slumber. Neither is there any particular hygienic virtue in early rising. The familiar old couplet is only true in a very general sense, and there are a great many cases where a man would be healthier, wealthier, and wiser if he delayed the time of his rising to an hour consistent with his own feelings and inclinations.

Dreams, undoubtedly, occur during disturbed sleep, or during the interval between sleeping and waking, and—although it is not easy to prove this—it is more probable that a sound sleep is a dreamless one. Unusual mental anxiety or excitement, or a disturbed state of the bodily organs, such as an overloaded stomach, may cause a certain activity of the mental processes, which will become manifest in dreams. The sudden awakening of a sleeper will often cause a dream in the brief interval before full consciousness is attained. Dreams more often relate to recent and important occurrences in our daily life; but, on the contrary, the most trivial incident, forgotten for many years, may be, as it were, stored up somewhere in the brain, to be afterward revived in a dream, with all the accompanying circumstances.

The literature and curiosities of sleep and dreams are, however, very extensive, and it would be impossible to refer to even a fractional part of the observed phenomena. A simple falling asleep, if it were not so common, would be a most wonderful and even alarming occurrence. Although the vital processes of a sleeper go on as usual, yet the mental life, the self-consciousness is suspended, and the sleeper is practically dead to this world, or else wandering in another and stranger world—that of dreamland. A dreamer may be said to be in two places at once, and if, from any cause, he should not awake, but continue to dream on indefinitely, it would be hard to say why he would not be living just as true and real a life as the one which he knew in his waking hours. Hamlet's chief argument against suicide was that "In that sleep of death who knows what dreams may come?" and Bryant, in his poem, *Thanatopsis*, speaks of welcoming the approach of death,

"Like one that wraps the drapery of his couch
About him, and lies down to pleasant dreams."

It is a noble, and perhaps the most logical conception we can form of the great and inevitable change that must come to us all, to consider it as out the awakening from the dream of our present life into a higher state of existence, with a comprehension of the laws governing the universe and our individual being, which shall lead us to look back upon the experiences of our present life as we now vaguely remember the visions of a disturbed slumber, and with a little regret "at they have forever passed away."—*Popular Science News*.

HEALTH AND DISEASE.

The natural condition of living beings is one of health. A normal life history would be one of gradual development from birth to maturity, the continuance of maturity or adult life, with the perfect and uninterrupted actions of all the bodily functions, for a certain length of time, and at the last a gradual falling of strength until the vital spark goes out, like the flame of a lamp exhausted of oil, quietly, painlessly and almost imperceptibly.

It is safe to say, however, that not one person in a million can pass through life in this natural and ideal manner. The more highly developed the organism and the more complicated the vital processes, the greater the liability to abnormal conditions of their action. The lowest forms of life are, apparently, not subject to disease, but, as we ascend higher in the scale, the number and variety of diseases, as well as the susceptibility to their attack, constantly increases, until, in man, with his highly differentiated and specialized organism, his immensely developed mental faculties, and the more or less unnatural conditions of his civilized mode of life, every separate organ seems to be on the point of breaking down either by the degeneration of its organic structure or by the abnormal performance of its functions. This we call disease, and those who have not experienced it in a greater or less degree are exceedingly few in number.

Man, above all other animals living, is out of harmony with his environments. The course of his development from the lower forms of life, seems to have taken place with so great rapidity that the bodily organs have not had time to adjust themselves to the changed conditions of his existence.

The extraordinary and disproportional development of his mental faculties has led him to adopt habits of life which his anatomical structure and physiological functions are not adapted to sustain. Every gynecologist and obstetrician can testify that the abdominal organs are not even yet fully adjusted to the upright position of the body, and the structure of the circulatory system shows that, from the standpoint of the evolutionist, it is at a comparatively recent date that our progenitors abandoned the horizontal for the vertical position while walking or standing. If it were not for this superior mental development, which forces the bodily organs and members to perform functions to which they are not fully adapted, man, or the more highly civilized races at least, could not exist upon the earth, and as it is, the tendency seems to be for the