

Literature and Science.

AT EIGHTY-THREE.

AGE, bleak age it is to me,
A wrinkled crone of eighty-three ;
A peaked chin, cheeks long gone in,
A figure like a shrunken tree,
On which the leaves all withered be.

Fair maiden with the peach like cheeks,
That counteth life by days and weeks,
Where will you be at eighty three?
Where will be then those sparkling eyes,
In which a world of coquetry
And sweetest hidden meaning lies,
When you are aged eighty-three,
When life is but a withered tree,
Dead at the top at eighty-three.

Oh, laughing maid, oh, wrinkled crone,
Oh, sparkling eyes, oh, shrunken bone.
Youth looks forward, Age looks back.
Life is the same for you or me,
If love but once have crossed our track,
Life can be sweet at eighty-three,
For life is all a memory.
Autumn still may dream of spring,
And sweetest blossoms backward bring,
Through all the bleak wind and the rain,
If love but visit us again,
Where dead leaves cling at eighty-three.

'Tis sad to outlive all our hopes
And dreams that withered on the slopes,
Like dead leaves from life's tree,
But yet to us 'tis sweet to know,
That as we old and older grow,
That younger in heart are we,
And still that hand in hand with love,
Beneath the shining stars above,
We walk at eighty-three.

Oh, who is he would measure age,
By wrinkled brow or peaked chin ?
But rather by the heart within,
That throughout all life's tempest rage,
Still kept its youthful purity,
With memories at eighty-three.

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THE PHYSIOLOGY OF SLEEP.

THE wonderful phenomenon of sleep, to which a long-life familiarity has so accustomed us as to blunt our powers of observation, is, nevertheless, at once so interesting, so important, and so ill understood a subject, that further information thereon cannot fail to be appreciated. The medical man, it is true, has generally, except in his own person, more to do with sleep as a diseased or absent condition; but in his endeavours to cope with a symptom, which, like the pyrexia in fevers, may in itself determine a fatal result, he cannot but derive aid and assistance from a study of the details of processes which precede, accompany, and follow this condition. Since attention was first turned

to the investigation of the physiology of sleep, numerous contending and often absurd theories have been formulated, with a view of accounting for its rhythmical occurrence: the unconsciousness, in varying degrees, which accompanies it; and its bearing on the economy. The very nature of the subject, however, seems to have predisposed those who devote themselves to its study to leave the arid path of scientific research and deduction in favour of the more flowery and popular method of dishing up recitals of the weird and the extraordinary, as exemplified in those aberrations or varieties of sleep known as somnambulism, hypnotism, etc.; and the result has been the publication of numerous treatises, containing much that is both curious and interesting, but which from a physiological or a pathological point of view, are not of much value. The perusal of a really scientific work on the subject, however, only proves once more the truth of the adage that truth is stranger than fiction. To the methodical and careful observer, the proper means of research yield results which are incomparably more curious, and at the same time, instructive, than the pseudo-facts with which some writers fill their books. Each successive gradation in sleep is marked by the inclusion of a nervous system which is for the time being shut off, so to speak, from participating in the general life-function of the individual until, when the maximum intensity is attained, nothing is left but the purely animal—one might almost say the vegetative—life. Sleep of this degree of intensity, although a perfect normal process, is not, in health, of long duration. After the lapse of a variable space of time, the systems one by one resume their function, until finally the sum of perceptions brings about the condition of awakening. As a natural consequence of these variations in perceptive powers, the character of the sleep is altered, according to the period. From the deep unconsciousness of complete repose, when every sense is in abeyance and the will rendered nugatory, the cerebrum is gradually aroused, first to the dim appreciation of the influences of external agencies, followed in due course by a return of perceptive power in the sensorium, and the cessation of sleep. The brain shares in the need, which is everywhere apparent, of periods of rest. The products of cerebral activity accumulate more rapidly than they are eliminated, and a period therefore arrives when the tissues are no longer able to do their work. The result is an invincible feeling of indisposition to exertion, physical or mental. The temporary and involuntary cessation of activity is at once followed by a diminution of the blood-supply; the anemia so induced being, therefore, a consequence, and not a cause, of the state of repose. The various parts of the nervous system are not all involved simultaneously or to the same

extent. The centres governing voluntary movement are the first to be affected; as seen in the nodding of the head and the closure of the eyelids; and the body, if not prevented, tends to assume the position of repose, determined by the laws of gravity. The special senses soon follow; but here, again, they are not abrogated *en masse*. Sight is the first to go, the stimulus no longer reaching that portion of the cerebrum where it can give rise to a definite sensation even where the closure of the lids has not shut off external stimuli altogether. Hearing and smell are remarkably persistent, and, except in the deepest sleep, may be said to be only dulled, and not extinguished. Everyone is familiar with the ease with which sleep is put an end to by unaccustomed noise even of slight intensity, or better still, by the cessation of any monotonous sound, as for instance, the awakening of travellers by rail or steamboat or any stoppage of the train or machinery. Instances are on record, too, where the inhabitants of a house have been aroused simply by the smell of tobacco indulged in by inexperienced or incautious burglars. The persistent sensibility of these senses may to some extent be accounted for by the fact that they are not shut off from communication with the outside world, as are, for example, the eyes. To allow sleep, or, at any rate, quiet sleep, a certain harmony must exist in the condition of all the organs, which must, so to speak, be turned to the sleep tone. If one organ be in a state of activity, or, on the other hand, its condition be abnormal in some other way, the sensorium refuses to abdicate its control. This is familiar to us in the case of cerebral activity, or cold feet at bed-time, both being inimical to sleep. Inasmuch, therefore, as insomnia may result from either set of causes, we can either employ drugs, such as opium, which act directly on the nerve-centres, and so bring about sleep; or we may resort to medicines like hypnone, which is said to favour sleep, rather than induce it, by allaying the irritable or hyperæsthetic condition of certain organs or parts. The study of the causes and treatment of insomnia, however, does not enter into the compass of this article; but it is one which can only be satisfactorily pursued after competent knowledge has been acquired of the normal process in the state of health, undisturbed by dyspepsia or cerebral disorganization.—*British Medical Journal*.

WHAT are you reading? Your teaching will be coloured by your personal reading, tinted with more brilliant hues if you are reading the best things for mind and heart shaded with ill temper, impatience, fretfulness, etc., if you are reading frivolous, aimless, simply excitable things.—*Ea*.