

Scientific American.

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The Length of Human Life.

An article in the last number of Blackwood's Magazine, on the above subject, holds out the idea that the age of man should be one hundred years instead of three-score and ten. The author says, "We do not simply die; we usually kill ourselves. Our habits, our passions, our anxieties of body and mind, these shorten our lives, and prevent us from reaching the natural limit of human existence." Gluttony, he asserts, destroys more lives than intemperate drinking, and yet, "it is the fashion to restrict the term *sobriety* to the moderate use of liquors." A sober life no doubt implies moderation in all things—in eating, drinking, and in the enjoyment of all the pleasures of life. But although we have read and heard much of moderation in eating and in drinking, the difficulty has always arisen in our minds respecting the true standard of moderation. What is it? who will define it? The standard suitable for one is not for another. No man can doubt for a moment the benefits of moderation—temperance in all things. But no man can or should set up his own standard for his neighbor. And yet it may truly be said, that general rules for temperance may be set down, which, if followed, would be of immense benefit; such as "not to eat so much as will unfit the mind for its usual exertions; or so much as will make the body heavy and torpid. Nor to pass hastily from one extreme of living to another, but to change slowly and cautiously; to eat plain and wholesome food, and to proportion its quantity to the temperament, the age, and strength of the eater. Not to allow the appetite for food or drink to regulate the quantity to be taken, but experience, void of sensual desire." These rules, if followed, will tend to promote health, and thus lead to a greater length of days and years in man's existence; still there is a natural period for man to exist and neither food, drink, nor sobriety can place him beyond that. We find that each species of animal has its boundary of life, and so has man. He has his infancy, youth, middle age, old age, and then comes the winding sheet and the narrow house. But how long does his existence last? how many years encircle his natural life?—These are important questions. We find that thirty years is considered to be a generation; that is, the whole world is re-peopled every thirty years with a new race, and a like number departs from it in that period. But no person considers thirty years as the natural term of man's life—seventy years being generally set down as that limit. A book, however, recently published in Paris, by M. Flourens, which has created no small sensation in that city, places old age at eighty-five years, and the complete natural life of man about a century. He places first manhood between forty-five and fifty-five, and second manhood from that to seventy, instead of old age at that period. We are inclined to accept his view of the question as the most correct one. Buffon, the naturalist, entertained such an opinion. The rule of life laid down by him is, that animals live from six to seven times the number of years required to complete their growth, such as the horse, which completes its growth at four years lives from twenty to twenty-four years, and a man who takes eighteen years to reach his full growth may live more than a hundred years. There are but few men who live to a hundred years, and just as few horses that live to twenty-four, but that affords no reason why many men, and almost all men of a sound constitution, may not live for a century. The table of M. Flourens relating to life is as follows:

Man grows for	20 years,	and lives	90 or 100
The camel	8	"	40
The horse	5	"	25
The ox	4	"	15 or 20
The dog	2	"	10 or 12

This is somewhat different from Buffon, but he sets it down as a fixed rule that all the

larger animals live about five times longer than the time required for their full growth. This question is one of deep importance to the whole human family. It is one to which the ingenious Frenchman has brought a great amount of knowledge in investigation, and he holds up science, as presenting to all men by a life of sobriety, a very extended fund of existence.

Education and the Laws of Health.

The Philadelphia Ledger, in a very excellent article on the above subject, states that the Directors of Herriot's Hospital, in Edinburgh, Scotland, have resolved to impart to all the pupils connected with that institution, a knowledge of the elements of physiology and the laws of health. The Ledger says:

"There can be no better proof required of the increasing intelligence of the age than the adoption of this reform in one of the most conservative institutions of one of the most conservative capitals in Europe. On this side of the Atlantic, the study of physiology has been introduced into numerous schools; but hitherto, in Europe, this important branch of knowledge has been ignored in academies for the young, while Latin, Greek and Metaphysics have been crammed *ad libitum* down the throats of pupils."

In connection with this, let us say, that the Directors of the Hospital mentioned have long followed a practice which all our Academies would do well to copy; that is, giving their pupils manly physical, as well as mental training. Athletic exercises of various kinds, and the army drill by an old soldier, have long been taught in Herriot's Hospital, and we apprehend that these are more necessary for youth than simple mental instruction in the elements of Physiology. In all our common schools Physiology is daily taught, while its principles are daily violated by the very rules of these schools. Children of from five to twelve years of age are compelled to attend school from 9 A. M. to 3 P. M., without being allowed to go home for dinner; and we have known some instances of little ones having had their cold lunch stolen, who were actually refused permission to go home when suffering from hunger, and thus they were compelled to sit and study, without food, for a larger period than it would be prudent for grown-up men and women to fast. The children in all our schools should be allowed one full hour for dinner every day. This is as necessary for them as for adults. What is the use of teaching children the laws of health in our schools and at the same time compel them to violate those laws.

We do not object to Physiology as a school study—we approve of it, but we must say that our school teachers and Commissioners of Education are of all the persons we know, the very ones that most require to be put through the rudiments of the *laws of health* and common sense, respecting both the habits of pupils and the several branches of information which they are taught. The most of the teaching is impractical, useless, mindless—no better than a parrot's roll-call. Like what was declared by a celebrated orator respecting the Constitution of England, the system of education pursued in our schools is everything and nothing. An educational reform is certainly demanded, not only for the schools of New York, but those (as we have been informed) of all our cities together.

New Artificial Stone.

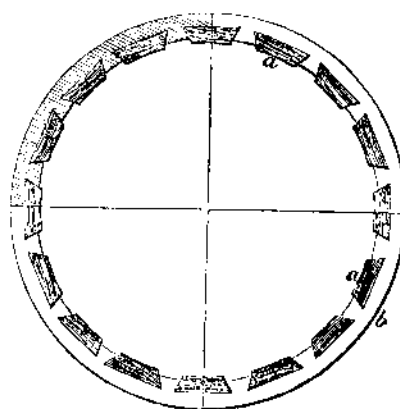
The composition of sand, plaster of Paris, and blood, for which a patent has been granted this week [see the claim on another column,] is capable of being molded into the most elaborate architectural ornaments and copies of sculpture; and it assumes the character of stone in a few hours, without baking or any other specific treatment after being molded. The manufacture of this stone is at present carried on at the Hamilton Works, Newark, N. J., and a company of men of capital has been formed John Wood, being at the present time its Secretary. A meeting of those interested in the undertaking was held at the Metropolitan Ho-

tel in this city, on the evening of the 15th inst., at which some beautiful specimens were exhibited, and one made but a few hours before. These comprised, trusses, lintels, sills, tops and bas-relief for a new store on the corner of Columbia and Carrol streets, Brooklyn, which excited admiration. These resembled the common brown free stone used for buildings in our city, and in hardness and strength were equal, if not superior to it. It grows harder with age, and its introduction for building and architectural purposes, presents in prospect the dawning of a new era in architecture, as ornamental work, like brown free stone, can be produced by molding this composition, at a cost far below that required for carving such work with the mallet and chisel.

Prof. Mapes was present and made a speech on the subject, (which has been published.) It was a disquisition relating to the chemical action of the substances employed in the composition. He presented, as the main feature of the composition, that of the silicate of potash, formed by the chemical union of the small quantity of potash in the blood with the sand, and never said a word respecting the action of the blood and the sulphate of lime. Nor did he take any notice of the action of the common salt (amounting to half the ash of blood) nor of the soda, which is equal to the potash in uniting with silicic acid, (sand) nor the phosphoric and carbonic acids contained in the blood. If he had simply said—"Gentlemen, the ingredients of this composition are blood, sulphate of lime and sand, which are kneaded together and molded in a moist state and these seem to unite chemically, by long and close contact, forming, as you see, beautiful and perfect hard stone;" he would have said all that possibly could be said of it, chemically.

That the composition forms beautiful hard stone, capable of being molded into any form, is beyond all doubt a fixed fact. We hope it will be the means of gratifying and elevating the taste for ornamental architecture, as it is specially adapted for such purposes."

Wood Bearings for Screw Shafts.



The annexed figure is a section of a bearing for the screw shaft of the *Malacca*, a 17-gun steam sloop, belonging to the British navy, and illustrated in the *London Artisan*. *b* is the brass bearing, and *a* blocks of wood to fit in recesses in the brass. The brasses are bored out about three-sixteenths of an inch larger than the shaft, and the recesses are slotted out, as shown, to receive the wooden strips, *a*, which form the bearing of the propeller shaft. This is stated to be a valuable improvement, and has been introduced into quite a number of the navy propellers. It is a subject of no little importance to our marine engineers, who have not yet devoted that attention to propellers which their general economy seem to demand. It is also applicable to all kinds of shafting.

Great Travelling.

The railroad is no doubt a vast leap in rapid traveling from that of the old stage-coach, the ratio being as five miles per hour by the latter to thirty-five by the former. But that will not do yet; we must move considerably faster some of these days, and the lucky inventor who first makes easy and safe traveling at the rate of 100 miles per hour, will deserve more than a marble slab erected to commemorate his achievement. We have expressed ourselves a number of times in re-

ference to the possibility of locomotives traveling at this rate, but such a standard may be too high for them; they all at least appear to be old *fogies* in comparison with the atmospheric ship of W. D. Bannistler, of Adrian City, Michigan, who recently made a voyage from that place to Clarion Co., Pa., a distance of 350 miles, in four hours.

And how did he do it, by steam or electricity? Neither of these, but simply by a common balloon 30 feet in diameter. At this rate of traveling it would only take about 34 hours to reach Liverpool from New York. Who is the daring aeronaut that will make the first aerial voyage from America to Europe. If aerial navigation were rendered perfectly practical—sure and safe, it would supersede all other modes of traveling. Balloon voyagers would then sometimes look down upon our huge steamships floundering among the waves below, and crack a joke at the heavy tragedy they were performing.

Third Exhibition of the Kentucky Mechanics' Institute.

The Third Annual Exhibition of this spirited Institution will be held in Louisville, in the months of September and October, this year. Mechanics, artists, and manufacturers from all parts of the Union are invited to contribute articles for the Exhibition. The hall of the Institute is commodious, embracing 17,000 square feet of space. Steam power for driving machinery will be furnished to applicants, and the galleries will be set apart for works of art.

Those wishing to contribute articles, and desiring any information respecting the Exhibition, can obtain the same by letter addressed to M. M. Green, Secretary. The Hall is to be open for goods on the 18th of September.

Tribute of Praise to the Commissioner of Patents.

On the 15th inst., the Rev. Francis Vinton, D. D., of Grace Church, Brooklyn, one of the examiners of the graduating class at West Point, delivered an address to the students, in which we find the following tribute of just praise to Judge Mason, who, like the reverend orator, is also a graduate of West Point—an Institution which has educated so many distinguished men:—

"Wherever graduates have entered the walks of civil life, they have proved themselves rivals of the best civilians. Witness the illustrious Secretary of War, whose fame is betokened alike by the Laurel and the Olive wreath—whose merit shines not less as a soldier than as a legislator—whose genius will be found competent for any future emergencies either in the Cabinet or the Field.

And witness, too, the Head of the Patent Office, the honest man and the discriminating Judge, whom no labors can tire, whom no difficulties can daunt, whom no sophistry can deceive, and who has won the eulogiums of inventors themselves, even those whose claims he has denied."

An American Mechanic in Charge of the British Armory.

James H. Burton, late master armorer in the National Armory at Harper's Ferry, Va., has received from the British Government the appointment of engineer of the British National Armory at Enfield near London. Although that armory is under the command of Capt. Dixon of the Royal Artillery, Mr. Burton will have the entire direction of the manufacturing operations of the establishment. This is another compliment to American mechanical skill.

Mr. Burton, as might have been expected, has been one of the constant readers of the *SCIENTIFIC AMERICAN*. In the manufacture of small fire-arms, both as it respects quality and economy, the American armories, have long been in advance of those in any other country.

Prof. Youatt, of England, in cases of persons bitten by mad dogs, it is stated, has healed more than four hundred cases with muriate of silver, and not one had any symptoms of hydrophobia.—[Foreign Exch.

[Mad dogs must be plenty in England, or Prof. Youatt's practice must be enormous, to have had so many cases of so uncommon a disease to treat.—[Ed.