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SCIENTIFIC AMERICAN SUPPLEMENT

No. 662.

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DOES EXCITEMENT SHORTEN LIFE?

Whoever may have studied man's earthly tenure and the causes which tend to lengthen or curtail it, will have scarcely failed to notice how contradictory is the evidence of those we naturally look to to explain them, and that their evidence, even when they agree, does not always accord with what would seem to be the facts, as they appear around us. One authority says general physical development is necessary to prolong life, while another insists this is not required if the day's employment does not call for physical exertion.

Dr. D. B. Richardson, an eminent English authority, whose remarks before the Sanitary Institute of Great Britain on the storage of life we quoted recently, declares, among many obvious though scarcely novel propositions, that everything that quickens the action of the heart, any kind of excitement, taxes and reduces the storage of life.

If this were said of those naturally feeble, or inheriting disease, or even of those leading sedentary lives, and living from day to day without the invigorating benefits of fresh air and exercise, it would seem reasonable, for one does not have to be a skillful physiologist to know that excitement affects the nerves as well as the heart. But is the statement strictly true when referring, as here, to the entire human family? Surely soldiers engaged in actual warfare and sailors in peace as well as war live among excitements, besides being notoriously addicted to indulgences as to drinking and smoking, yet are they long-lived. Statistics show it and observation corroborates them. The pension list of the British army, giving the ages of the beneficiaries, men who have served in all climates for from 20 to 40 years, and excluding those pensioned sooner because of "wounds received while in the performance of duty," shows that soldiers do not die as other men do; so it is with the naval pensioners of the Greenwich Hospital, now scattered over Great Britain, because of its abolishment.

In the merchant service to-day it is no uncommon thing to find a man 70 years old in charge of a vessel—a post requiring activity of body as well as of mind. Here in New York we have the proof near us, for at Sailors' Snug Harbor, on Staten Island, are 800 aged but for the most part hearty sailors. Most of these are between 70 and 80; active old fellows they are, with clear minds and good appetites. They will tell you they are not by any means the sole survivors of our one time merchant fleet; that many, if not most, of their mates are yet living, but distributed over the country, living with their grandchildren, perhaps wherrying for a living or engaged in other employments along a water front. From this it would appear that a sound human body can withstand hunger and exposure and even frequent excitement, if only there is plenty of fresh air and exercise of a vigorous kind thrown in.

ELECTRICAL LIGHTING CONVENTION NOTES.

At the Electrical Lighting Convention, an account of which will be found elsewhere, President Duncan advised the companies to enlarge their plants at the earliest moment in order to enable them to supply power as well as light—a timely suggestion, be it said; indeed, some companies are already doing this, though yet in a small way, for the possibility of obtaining cheap power, like all other economical expedients, has only to be understood by the manufacturers to produce a large and steady demand. We have not, unhappily, yet reached that point where large parcels of power can be transmitted by wire in the form of electrical energy to great distances. But in shops where not more than say five horse power is required—and such shops may be counted by the thousand—the project of electrical transmission is already practicable.

The economy of the plan is immediately obvious. However small the steam engine, an engineer must be employed. Then there is the expense of fuel, the removal of its attendant ashes, not to mention the smoke and dust and grease. Under the transmitting system, a small manufacturer can get what power he requires at far less expense and annoyance, doing away with engine and engineer and getting more or less power, according as his business is brisk or dull. The electric lighting plant is peculiarly fitted for supplying power, because, during the day hours, when power is wanted, it may be devoted exclusively to that end, instead of, as now, lying idle, its great energies of steam engine and dynamos uncalled for. Thus a plant may be turned to double use, supplying power during the day, when light is not required, and light at night, when the workshops are closed.

In the paper on "A Basis from which to Calculate Charges for Electric Motor Service," a pretty broad hint will be found, not only to the vendors of power, but as well to the user. We are told that mill and shop people invariably order and pay for far more horse power than they use, and that though the price per horse power received by the vendor may seem inadequate, in reality he is well insured against loss because the demand for power never comes up to the maximum paid for. Thus, in a shop doing lathe and bench work, the full demand on the shaft would scarcely ever be called out, yet the amount of power seemingly required, and therefore paid for, would be the sum of the demands made by each lathe and roller.

The paper by S. S. Wheeler, expert of the Subway Commission, led to a protracted discussion, during which Mr. Wheeler admitted he could not explain how by any system of connections and distribution a system of underground electric lighting could be made to compare as to economy and efficiency with that now in use. He said the terms it was proposed to charge lighting companies was $1,000 per mile for 3 inch duct, $800 per mile for 2½ in. duct, $750 per mile for 2 in. duct, $550 for 1½ in. duct.

The president of an electric lighting company asked him if his company had really decided to charge $800 per mile for a year's use of a duct that only cost $500, to which Mr. Wheeler answered that they had.

Several experts, both as to technique and cost, interpolated Mr. Wheeler as to the practicability of burying the lighting wires by means of any of the systems now known, and the discussion that followed was listened to more eagerly than any other that was had during the sitting of the convention.

Facts were pointed out and figures exhibited showing the obstacles in the way; the danger of running high tension currents so near to gas mains, water mains, and telegraph and telephone wires was explained, and the costliness of connecting up, with the amount of precaution necessary, was illustrated. Mr. Wheeler did not answer these, fairly admitting he could not, and could only say that, if his company were given a chance, they would, he believed, after practical experimentation, find a means of accomplishing what was required.

But the expense of these experiments would come out of the lighting companies, and even in the case of failure, and a suspension, by reason of this, of all electric lighting, the subway company would not consider itself liable for the resulting loss, but would only agree not to charge any rent for the time when good service was not rendered. The electrical lighting men objected to the monopoly being given to one subway company, believing the plan left room for exorbitant charges, as had already been seen, and had other objectionable features.

A suggestion that seemed to meet with no little favor was made during this discussion, as a means of avoiding many difficulties now presenting themselves in the problem of burying the lighting mains. It was to reduce high tension currents three-fourths in intensity, thus leaving out the element of danger to human beings, though not to animals.

The Watkin Position Finder.

The Watkin position finder, for which the British government paid $225,000, proved its value recently in some experiments with an old pattern 9 inch muzzle-loading gun, polygrooved and mounted on a carriage admitting of upward of 35 degrees elevation. The position finder, worked by Major Watkin himself, was on a hill 230 feet above the sea level, and about a mile and a half from the battery. The target, which consisted of a raft 100 feet long by 40 feet wide, was sent drifting with the tide, which was running between five and six knots an hour. At ranges extending up to 10,200 yards (or close on six miles) most accurate shooting was obtained, several hits being recorded by observers placed on a tug close to the target, the greater portion of the forty rounds falling close round the object, which could not be seen from the battery.

A Perpetual Railway Pass.

When the Boston and Providence Railroad Company was chartered, Mr. John C. Dodge, of Attleboro, conveyed a portion of his land in consideration that he and his family should ride free over the line as long as the land was used for railway purposes. A granddaughter of Mr. Dodge now claims that she is entitled to the privilege named in the deed, and that the word family meant "descendants" of the grantor. The railway company demurred on the ground that the remedy of the plaintiff is at law, and not in equity. Judge Allen, however, has overruled the demurrer, and expressed an opinion that under the deed the Boston and Providence Railroad Company would be required to carry free the descendants of Mr. Dodge for all time.

English Cotton Spinning.

Owing to the perfection of her spinning machinery and the large amount of capital invested in the business, England spins more woolen and cotton yarn than all the other countries combined, and yarns are among the most important of her exports. The quality of cotton yarn in England is expressed by counts or numbers denoting the number of hanks in a pound, signifying coarseness or fineness. This rule of numbering is very simple, being the number of hanks, each 840 yards long, requisite to form one pound in weight. Thus No. 40 denotes yarns of which forty hanks weigh one pound.—*Dry Goods Chronicle.*