

PRIVATE RAILWAYS.

A new line of railway to connect the seaside village of Felixstow with the Great Eastern system has just been opened to the public, having been surveyed by Captain Tyler on the part of the Board of Trade. The new line differs from all others in England in being the property of a single owner, Col. Tomline, formerly M. P. for Grimsby, who has not only constructed it at his sole cost, but is also working it himself, with his own engines and rolling stock. The line is 14 miles long, and joins the Great Eastern at Witteringham, about 10 minutes run from Ipswich. The line presents no engineering difficulties, running almost on a level throughout, and on a dry and easily-worked soil, so that it has been completed within 20 months of its commencement. Until very recently it was intended to be worked by the Great Eastern Company, but this arrangement could not be carried into effect, and the new engines and rolling stock have been built by the Yorkshire Engine Company, and delivered in eight weeks from the receipt of the order. Putting aside colliery lines, it is believed that the only other example in the United Kingdom of a line of railway owned by a single proprietor is furnished by one section of the Highland railway, which belongs to the Duke of Sutherland. But this piece, although it is his Grace's property, is worked by the Highland Company, and is continuous with the other sections of their lines, in which its identity is merged, or almost lost. Col. Tomline stands alone in having a railroad which is not only his property, but also under his control. He has spent, it is said, a quarter of a million sterling in the undertaking. Mr. J. Babington Macaulay, agent to Mr. Edward Cooper, writes to the *Times*: "Perhaps you will allow me a small corner of your influential columns to correct the paragraph referring to ownership of passenger railways by single proprietors. The Maesloch railway, now working into the heart of North Pembrokeshire, and terminating at his slate quarries, few miles from Fishguard, is the entire freehold property of Mr. Edward Cooper, and worked entirely by his servants, engines and rolling stock, for both passenger and goods purposes. As regards public spirit and enterprise, there is strong affinity between the two cases in point; but where Col. Tomline's efforts have led him through 14 miles of dry and easily-worked soil to his goal, those of the other gentleman were met by deep rock-cuttings and valleys, mountain and moorland, river and forest, in the course of nine miles of railway, forming a variety of difficulties and of scenery in such a short distance almost unparalleled."

Mr. J. Grover, M. Inst. C. E., also writes from 9, Victoria Chambers, S. W.: "As you have drawn attention lately in your columns to Col. Tomline and the Duke of Sutherland as individual proprietors of railways, I take the opportunity of stating that Col. Yolland, the government Inspector, has finally passed the Head Hempstead railway, a line nine miles long, connecting the Midland and North Western systems in Hertfordshire, which has been constructed by me for a single proprietor, Mr. J. J. Barrow. The line has done heavy work upon it, and will be of great service to the district through which it passes; therefore I think the name of the gentleman at whose cost such an important local undertaking has been carried out deserves to be recorded among those to whom the public are indebted for useful public works of magnitude." *Ira.*

A SURGEON.—A surfeit in man is called fomenter in a horse, and is over-eating, eating more than the stomach can possibly convert into healthful blood. Wise men and careful men will sometimes inadvertently eat too much, known by a feeling of fulness, or unrest, of a discomfort which pervades the whole man. Under such circumstances, we want to do something for relief; some eat a pickle, others swallow a little vinegar, a large number drink brandy. We have swallowed too much, the system is oppressed, and nature rebels, instinct comes to the rescue and takes away all appetite, to prevent our adding to the burdens by a morsel or a drop. The very safest, surest, and least hurtful remedy, is to walk briskly in the open air, rain or shine, sun, hail, or hurricane, until there is a very slight moisture on the skin, then regulate the gait, set to keep the perspiration at that point until entire relief is afforded, indicated by a general abatement of the discomfort; but as a violence has been offered to the stomach, and it has been wearied with the extra burden imposed upon it, the next regular meal should be omitted altogether. Such a course will prevent many a sick hour, many a cramp, colic, many a fatal diarrhea. *Hall's Journal.*

NEW IDEAS UPON THE USE OF STEAM.—Steam at ordinary pressure, sent into saline solutions on which it has no chemical action, gives a rise of temperature that seems at first sight paradoxical, the temperature produced being always higher than that of the steam. *Nature* says that M. Müller, of the Berlin Chemical Society, has been studying the phenomenon. Chloride of sodium is one of the best salts to use. A solution of it sufficiently concentrated to have a boiling point of 127° may be raised to 125° simply by sending steam into it at 100°. Here, then, the steam produces a rise of 25° above its own temperature. The more concentrated the solution the higher is the rise. M. Müller points out, in explanation, that saline solutions at 100° absorb the steam at the same temperature, and the result is a rise analogous to that produced when a gas, like ammonia, is dissolved in water. These experiments throw new light on the controverted question, what is the temperature of the steam which escapes from a concentrated and boiling solution? Is it 100° or a temperature next to that of boiling of the solution? The new results seem to be against the latter and common view.

Do little helpful things and speak helpful words whenever you can. They are better than pearls or diamonds to strew along the roadside of life. They will yield a far more valuable harvest, as you will find after many days.

BUNCH GRASS OF MONTANA.

The *Rocky Mountain Husbandman*, in an article on bunch grass, says: There are several different varieties of this grass, two of which are the most popular and generally known; one with a blade that resembles blue grass and stems which run up in a cluster and bear seed much in the same manner that blue grass does, except that it does not form a tuft but grows in bunches, and is found upon the high, rolling bench lands, parks and mountains. The other kind grows more frequently upon the first bench. The blade is sharp, the heads all turn to one side, and from the broad boot on the seed stalk it is often called "flag grass." As to quantity per acre, there is but little or no difference. The latter is usually preferable for cattle, but the former is thought to be best for sheep, yet either is very fine.

These grasses start forth in early spring and grow very rapidly. If there have been heavy snows during the winter and the ground is well saturated with water, if there are frequent rains or snow storms as the spring opens, the crop of bunch grass is very large. In ordinary springs the grass is headed out by the first of June, and our boundless prairies and hills are beautiful as a waving field of grain. The height of the grass is usually from 12 to 18 inches, with blades from eight to 12 inches long, yet under very favorable circumstances it grows much taller. We have seen miles and miles of bunch lands along our mountain slopes which were one vast sea of bunch grass, fully 30 inches high and thick enough to mow; in fact, we have seen large ricks of hay of this grass, but the grass is so fine that the labor of making hay is too tedious for most persons to engage in. By the last of June the heads ripen and in ordinary seasons the blades are all cured by the middle of July, and the whole landscape is brown as a field of grain ready for the sickle and would burn if set on fire. In exceptional seasons, such as the last, the blades of the grass remain green and continue to grow until September. There is, however, no advantage in its remaining green, as there seems to be no perceptible difference in the fattening of stock. In fact, we are inclined to the opinion that the early cured is the best. There is no time of the year in which stock take on fat faster than in the latter part of summer and early fall.

The cured grass retains its nutriment all winter, from the fact that we have no drenchings in the fall to bleach it, the light snows which come in early winter and melt off soon only serving to moisten it and make it more palatable. When we have late summer rains, and the grass remains green until fall, should frost come early it is injured, and stock do not seem to keep in good condition during the winter as when it dies early, as is generally the case. During the winter the low lands and sharp foothills are for the most part free from snow. Usually the snow is chased away by the wind, except that which is driven into the thick clusters of grass and lies bedded among the old dead blades of other years. In grazing the stock gather up more or less snow, which serves in a great measure as a substitute for water. When the snow departs in the spring stock go to the foothills, following up the receding snow; the grass which lies covered all winter is relished best; besides the young crop starts first and grows fastest among the sharp hills. In the States, green grass in early spring appears to have a weakening effect upon stock, but here it comes forth among the old crop, and is so well mixed that there is scarcely any difference between it and dry feed.

Bunch grass will not yield an acre equal to other grasses, but it does not require near the quantity of this to sustain stock and keep them in a flourishing condition as is required of coarser and less nutritious food; it approaches nearer to grain than anything of which we have any knowledge. A poor horse, turned out here, seems to thrive and get in serviceable condition quicker than if corn fed in the stables.

DEEP SEA LIFE.—The mystery of deep sea life lies in the fact that there are multitudes of representatives of the animal world which, in virtue of their animality, are incapable of nourishing themselves upon inorganic matter, yet which are living miles below the limit at which vegetable life exists. Some of the organisms found in deep sea soundings are undoubtedly of a vegetable nature; but there are surface-living diatoms, or other forms, which sink when they die. This animal life at the sea bottom is capable of appropriating as food the organic matter held dissolved in the ocean water, as well as the inorganic substances necessary for the formation of its skeleton and the gases required for respiration. For life at the bottom of the sea is essentially like all other animal life; it requires food to eat, air to breathe, and minerals from which to elaborate its framework. Careful experiment has solved the difficulty: the surface-living nutrient descends after death; slowly and laboriously the life-sustaining oxygen makes its way from the surface to the depths where cold and darkness reign, and as slowly the poisonous carbons acid—the result alike of life and death—makes its way to the surface. Thus, just such life as can exist under the difficult conditions there present, does exist in enormous extent.—*Scribner.*

COTTON SEED AS BOILER FELTING.—A Florida paper mentions a new use to which cotton seed has recently been put that is of no little import. It is in the shape of a non-conducting cover for steam boilers, and is described thus: "It is the cortical part of the seed with the little fuzz attached that is used. A layer of these cotton seed hulls is put around the boiler with the aid of slate, and then the whole is covered with a layer of plastering. With 25 pounds of steam on the surface of this casing it was barely warm; and we are assured that both in the engine and fire-rooms the temperature has been greatly reduced, so as to be much less oppressive, since the casing was put on. This seems to be something entirely new, and though in the present instance it is highly satisfactory, the party who tried it thinks he can suggest some improvement so as to render the non-conducting heat still more perfect."

OUR COUNTRY'S ORIGIN.

Our fathers came hither from a land to which they were never to return. Hither they had brought, and here they were to fix their hopes, their attachments and their objects. Some natural tears they shed as they left the pleasant abodes of their fathers, and some emotions they suppressed when the white cliffs of their native country grew dim in their sight.

A new existence awaited them here; and when they saw these shores, rough, cold, barren and barren, as they then were, they held their country. Before they reached the shore they had established the elements of a social system, and at a much earlier period had settled their forms of religious worship. At the moment of their landing, therefore, they possessed institutions of government and institutions of religion. The morning that beamed on the first night of their repose, saw the pilgrim already established in their country. There were political institutions, and civil liberty, and religious worship. Poetry has fancied nothing in the wanderings of heroes so distinct and characteristic. Here was man, indeed, unprotected and unprovided for on the shore of a rude and fearful wilderness; but it was politic, intelligent and educated man. Everything was civilized but the physical world. Institutions containing in substance all that ages had done for human government were established in a forest. Cultivated mind was to act on uncultivated nature; and, more than all, a government and a country were to commence with the first foundations laid under the divine light of the Christian religion. Happy auspices of a happy futurity! Who would wish that his country's existence had otherwise begun? Who would desire the power of going back to the ages of fable? Who would wish for other emblazoning of his country's heraldry, or other ornaments of her genealogy, than to be able to say that her first breath was with intelligence; her first principle the truth of divine religion.

THE RESPONSIBILITY OF AMERICANS.

This lovely and this glorious liberty, these benign institutions, the dear purchase of our fathers, are ours; ours to enjoy, ours to preserve, ours to transmit. Generations past and generations to come hold us responsible for this sacred trust. Our fathers admonish us with their anxious paternal voices; posterity calls out to us from the bosom of the future; the world turns hither its solicitous eyes—all conjure us to act wisely and faithfully in the relation which we sustain. We can never, indeed, pay the debt which is upon us; but by virtue, by morality, by religion, by the cultivation of every good principle and every good habit, we may hope to enjoy the blessing through our day, and to leave it unimpaired to our children. Let us feel deeply how much of what we are and of what we possess we owe to this liberty and these institutions of government. Nature has, indeed, given us a soil which yields bounteously to the hands of industry; the mighty and faithful seafarers in before-mus, and the skies over our heads shed health and vigor. But what are lands and skies to civilization man without society, without morals, without religious culture; and how can these be enjoyed in all their extent and all their excellence but under the protection of wise institutions and a free government? There is not one of us who does not at this moment and at every moment, experience in his own condition and in the condition of those most near and dear to him, the influence and benefit of this liberty and these institutions. Let us then acknowledge the blessing; let us feel it deeply and powerfully; let us cherish a strong affection for it, and resolve to maintain and perpetuate it.—*David Wheeler.*

THE SISTER.—No household is complete without a sister. She gives the finish to the family. A sister's love, a sister's influence, what can be more hollowed? A sister's watchful care: anything but more tender? A sister's kindness: does the world show us anything purer? Who would live without a sister? A sister is a sort of guardian angel in the house circle. Her presence condemns vice. She is the quickener of good resolutions; the sunshine in the pathway of home. To every brother she is light and life. Her heart is the treasure-house of confidence. In her safe a safe adviser, a charitable, forgiving, tender, though often severe friend. In her he finds a ready companion. Her sympathy is open at day and sweet as the fragrance of flowers. We pity the brother who has no sister, no sister's love. We feel sorry for the home which is not enlivened by a sister's presence. A sister's office is a noble and gentle one. It is hers to persuade to virtue, to win to wisdom's ways; gently to lead where duty calls; to guard the citadel of home with the sleepless vigilance of virtue; to gather graces and strew flowers around the home altar. To be a sister is to hold a sweet place in the heart of home. It is to minister in a holy office.

LONGEVITY OF THE ISRAELITES.—Dr. B. W. Richardson, of London, has recently investigated this subject. The result of his research shows that, both on the continent and in England, Jews possess a higher vitality than the general community by whom they are surrounded. Tracing the causes for this greater longevity, he says he cannot attach too much importance to the sanitary laws that obtain among the Jews, instances those in regard to diet, cleanliness and abstinence from strong drink. In fact, the Decalogue from beginning to end is one sanitary lesson, teaching them to subdue the passions which torment the brain and distress the body.

"WHAT comes after T?" said a school teacher to a small pupil who was learning the alphabet. He received the bewildering reply, "You do to see Liza."

Good thoughts (though God accept them) yet toward men are little better than good dreams, except they be put in act.—*Bacon.*

WOMEN'S INFLUENCE.

There are many kinds of influences, and we do not believe that those which are most clearly perceived and most loudly proclaimed are of necessity the most potent. However, it is interesting to read of the outer influence. We quote a few suggestive paragraphs from Mrs. Livermore's recent address: "If there is anything which honorably distinguishes our age from the preceding one, it is the number and magnitude of its philanthropies; the genius of modern civilization is humane. If disasters fall upon any portion of the earth by fire, flood, or famine, the rest of the world rises up to send help as never before in its history. Nothing has been so marked in history as the change in the estimation in which woman is held and the advance in the advantages offered to her. Thirty years ago we had in all New England for the higher education of woman only Mount Holyoke Seminary. Now we have Boston University, giving women superb advantages. Then we have Smith College, with the very highest standard of scholarship, Wellesley College, and other institutions for women only. But, outside of New England, we have the University of Michigan at Ann Arbor, Cornell, and in almost all the Western States colleges, professional schools are opened. Theologians still call woman's presence in the pulpit a sacrilege, but in every church we already find great bands of women stimulating the church societies to action. The Methodist Women's Board of Missions sends missionaries to the remotest corners of the earth. Women are carrying on these conservative movements on a scale exceedingly grand."

"Temperance women are already widely organized—outside of politics, yet in direct contact. The Woman's Temperance Union, in this city, numbering 12,000 members, is one of 27 in the Union, all of which are banded together in one great National Temperance Union, whose membership in the aggregate is 200,000. The amount of mental training, of political information, of social training, is immense. These women are students of legislation, interested in the success or defeat of public measures, and all this is the growth of a dozen years. The power of Miss Willard, at the Tabernacle, is an illustration of the training of the work women can do."

"Yes, woman has become a power! Look at our grand women in such varied fields of usefulness. Maria Mitchell, of Vassar College, welcomed by the leading astronomers all over the world as a peer in science, yields her influence in behalf of woman suffrage. Look at Anna C. Brackett, the principal of the first school for ladies in New York city, who openly speaks of the old prejudices as nonsense; & Dr. Mary Putnam Jacobi, who won the Boylston prize from Harvard physicians for the best treatise on Dr. E. H. Clarke's own specialty. These physicians did not in their invitation to compete exclude women, and when they did unanimously awarded the prize, ignorant of its authorship, and the envelope was opened, which revealed the name of the author, lo! it was a woman. In the law, Miss Alta Huelt, of Chicago. The legal profession of that city passed a resolution—one of eulogy—upon her character and career, which was no empty compliment, but only a recognition of ability and worth which, while she lived, they had been glad to help and encourage. Going west from the Missouri river, the traveler sees little indication of any Sunday, in the New England sense. In San Francisco you know it only by the louder noise of revelry, the larger attendance at public amusements. But at Laramie City they have a New England Sunday, and it is almost the only place in the far West of which this can be said. The right to vote was forced upon the women of Wyoming, precisely as it was forced upon the negroes of the South. There they were at once drafted upon the grand jury. They said, 'Our city is cursed with liquor saloons, which make even the Sabbath hideous. There is a Sunday law, which orders them closed. Let us enforce it.' The gentlemen of the jury said, 'better not, the men will disfranchise you if you do.' They replied: 'We never asked for the ballot, and we will do our duty. An ordinance has been passed by the men compelling the liquor saloons to close on Sunday. We will enforce it. They did so, and the women stand by it still.'

"Let me say before I close that if every advance made by woman is a gain for man—everything we can do for the elevation of woman reacts for that of man with tenfold force. Like the divine bird in the Persian fable, which was originally male and female, the two natures separated, it cannot fly; combine the two and they become one; together they cleave the sky and soar united to the sun. That bird is humanity."

THE TRUTH-TELLER.—It is worth while now and then to have what is called the truth told you about yourself. There are times when such truth-telling is of great and immediate service. But I have not noticed that persons who plume themselves upon speaking the truth to their neighbors are persons who really have no special devotion to truth, but who, on the other hand, a passion for making people uncomfortable. They do not love their neighbors; they hate them. With them, so-called truth-telling is merely a form of self-indulgence. How would it do, the next time the village truth-teller comes around, for you to tell the truth to him? "Kind friend, I thank thee for telling me that my daughter's manners are rude, and that my uncle, the parson, should be spoken to about his method of public prayer, and that my Sunday-best-go-to-meeting stove-pipe hat is two seasons behind the times; but let me reciprocate thy kindness, by informing thee that thou art a selfish old gossip, without enough brains to perceive the whole truth about any situation, but only a silly half-truth, or a miserable distorted truth, which, from the best of motives, I advise thee to keep to thyself."—*Scribner for July.*

JOSH BILLINGS says: "The mewl is a larger bird than the guse or turkey. It has two legs to walk with and two more to kick with, and wears its wings on the side of its head."