

is never so happy as when he is making other people happy—when he is relieving pain, and giving pleasure to two or three, or more people about him. Higher yet is his whose chief joy it is to labour at great and eternal thoughts, in which he has bound up the happiness of a whole nation, and perhaps a whole world, at a future time, when he will be mouldering in his grave. Any man who is capable of this joy, and, at the same time, of enduring comfort and pleasure among the few who live around him is the noblest human being we can conceive of. He is also the happiest. It is true his capacity for pain is increased and enlarged, as well as his power of feeling pleasure. But what pains such a man is the vice, and folly and misery of his fellow men, and he knows that these must melt away hereafter in the night of the great deeds which he perceives to be in store for them, while his pleasure, being in the form of a better future, is as vivid and as sure as great thoughts are clear and eternal.

#### TEMPERATURE OF THE INTERIOR OF THE EARTH.

The circumstance of the earth's being flattened at the poles and protuberant at the equator is the natural and necessary result of its rotation on its axis, but in order that it might yield to the force arising from such a motion, the matter of which it is composed must have been soft. Now, although water is capable of being compressed, and so far as we can judge, of taking any degree of density according to the force exerted upon it, still the shape of the earth is not that which would have resulted from such a mass of water. There may be particular portions of the sea that extend to the depth of several miles, as there are particular points of the solid crust of continents, that rise to this height above the general level. Still, even if it were the general depth of the ocean does not much exceed three thousand feet. It is thought that heat may have been the original cause of the fluidity of the earth, and that there may still remain enough to keep the interior portions in the same state. The more this subject has been examined, the more the evidence has accumulated in favor of the position that the temperature increases as we descend below the surface. There are numerous instances in which we have been able, by means of natural or artificial excavations, to penetrate to the depth of from 1,330 to 1,600 feet. The general inference from all these observations, made in different parts of the earth, is that there is an increase of heat amounting to 1 degree of Fahrenheit for every 30 feet in depth. At 10,000 feet the heat would be sufficient to boil water, and at the depth of 100 miles, or 1/4th part of the distance to the centre, the heat would be intense enough to melt most of the earth's stones that are known to enter into the composition of the globe. These facts and inferences have an important bearing upon the phenomena of earthquakes and volcanoes, and open a wide field of speculation to the natural historian and geologist.—*Dr. Lardner*

#### THE RANCHEROS OF MEXICO.

It will have been observed in the several statements that have from time to time been put forth relative to the material of the Mexican armies, the more particularly the one which the American troops have just encountered, that mention is made of a description of troops styled *Rancheros*. This is an appellation derived from their occupation of men and of life, and is common to a similar class of men who subsist on the pampas of South America. Half Indian and half Spanish in their extraction, gaunt, shrivelled, though muscular in their frames, and dark and swarthy visaged as they are, these men are the Arabs of the American continent. Living half of the time in the saddle, for they are unparalleled horse-men with lasso in hand they traverse these vast plains in search of the buffalo and wild horse, who roam in countless herds. The killing of these animals and the preparation and sale of their hides is their sole means of livelihood, other than occasionally lending a helping hand to some of the partizans in the civil wars that are continually being waged around them. Their costume generally consists of a pair of tough hide leggings with sandals of the same material bound together with leathern thongs, over which is a blanket with a hole in the centre large enough to allow the head to be thrust out, and which falls not ungracefully over their shoulders, leaving ample room for the play of their arms. Add to this a broad straw sombrero, and the lasso hanging ready for use in his girdle, and you have the *Ranchero* as he appears in the time of peace, or in the pursuit of his occupation. Join to this a long lance with a sharp spear head, ornamented with a strip of red hunting, on a horse as savage and as unmanageable as himself, and he looks plentifully supplied with pistols and knives, and you have the *Ranchero* as a member of a troop of bandits, or as a soldier in a body of cavalry.—*Forwardly* as they generally are in the open field,

yet in a conflict among the chapparels of Mexico, or in an ambuscade, they are indeed a formidable enemy. Their power of enduring fatigue is almost inexhaustible, and a scanty meal per diem of jerked beef and plantain suffices them during months.

Such are the *Rancheros*, and under disciplined control they would be rendered the best light troops in the world. These are the men who comprise the great body of the Mexican cavalry, and these are in the armies of that nation what the Cossacks are to the Russians—ever on the alert, never to be surprised and untiring in the pursuit of the foe when plunder, no matter how trifling, is to be obtained.—[*American Paper*]

#### Scientific.

##### EXPERIMENTS IN BLACKSMITHING.

Saving heated iron or steel is not known or thought of by blacksmiths, and when several forks or branches are to be formed from one stock, even if the branches are to remain eventually nearly in contact and parallel to each other, the usual method is to split the end of the iron with an awkward cold chisel, thereby deforming the edge of each branch; on which account, the branches must be bent round for the purpose of hammering, shaping and securing the end of each, after which they are brought together as well as may be, usually retaining a roughness in form, if not a deficiency in size and strength, near the juncture of the branches. Instead of this tedious process, the iron when heated may be put into a vice, and the ends may be readily split with a suitable saw, which would save much labour in hammering and filing. A saw for this purpose should be made thicker at the edge than at the back, and with uniform teeth about one twelfth of an inch apart. The saw when used, must be often dipped in water, to prevent its becoming too much heated. There is also a method of sawing or cutting hardened steel which is not so generally known as should be. A circular piece of common tin iron plate, or sheet iron, being adapted to a lathe, or other means put in violent rotary motion, will readily cut off a file, a cutting tool, or tempered steel spring, without drawing or reducing the temper. There is much mystery in the effect of this buzz, and its cutting property is attributed to electricity. It answers a very convenient purpose, however, when the shape and form of articles are required to be altered without effecting their temper. It furnishes a convenient method of cutting teeth to large saws, but is objectionable on account of the newly cut surface being left so hard that they cannot be readily filed by a common file. Connected with the subject of "mysterious effects," it may be stated that a bar of iron of almost any size may be instantly shattered while hot by the simple application of a piece of common roll brimstone.—A knowledge of this fact will be useful, when some piece of iron work is required to be severed, but which, as sometimes is the case, is so constructed and situated that no ordinary chisel or cutting tool can be brought to apply. Holes may be instantly perforated through bars or plates of heated iron by the application of pointed pieces of brimstone. This phenomenon is curious, although it seldom affords much practical utility.—[*Scientific American*]

#### THE DIAMOND.

Carbon is known by the names of diamond and charcoal, from the fact that the two latter substances, although so different, and almost opposite in physical characters, are according to unquestionable experiments, almost chemically the same.

That the diamond is simple carbon, is shown by the following experiment. Mr. Morveau exposed a diamond to intense heat, shut up in a small cavity, he found the diamond entirely gone, and the iron around converted into steel. This shows that it is pure carbon, which combines with iron to form pure steel, and not charcoal, which is generally an oxide of carbon. The peculiar hardness of steel is to be ascribed to its union with a portion of pure carbon or diamond. It is no uncommon thing for jewellers to expose such diamonds that are foul, to a strong heat, imbedded in charcoal, to render them clear; but in this process, great care is taken to have sufficient quantity of charcoal, to exclude the atmospheric air; otherwise, the intense heat would produce combustion.

#### For the Ladies.

##### OH, NO—NOT EVEN WHEN FIRST WE LOVED.

(Oh, no—not even when first we loved  
Were thou as dear as now thou art,  
—beauty then my senses moved,  
I now thy virtues bind my heart.  
I was thy passion's sigh before,  
Has since been turned to Romeo's vow;  
And, though I then ought love thee more,  
Trust me, I love thee better now.

Although my heart in earlier youth  
Night kindle with more wild desire,  
Behold me, it has gained in truth  
Much more than it has lost in fire.  
The flame now warms my inward core,  
That then but scorched o'er my brow,  
And, though I seemed to love thee more,  
Yet, oh, I love thee better now.

#### ADVICE TO A DAUGHTER.

There is one point, my daughter, which is too important to be omitted; I refer to the deportment which it becomes you to maintain toward the other sex. The importance of this, both as it respects yourself and others, you can scarcely estimate too highly. On one hand, it has much to do in forming your character; and I need not say that any lack of prudence in this respect, even for a single hour, may expose you to evils which no subsequent caution could enable you eternally to repair. On the other hand, the conduct of every female who has the least consideration may be expected to exert an influence on the character of every young gentleman with whom she associates; and that influence will be for good or evil, as she exhibits, or fails to exhibit a deportment which becomes her. So commanding is this influence, that it is safe to calculate upon the character of my community, from knowing the privileged standard of female character; and that can scarcely be regarded as an exaggerated maxim, which declares that "women rule the world."

Let me counsel you, never to utter an expression, or do an act, which even looks like soliciting any gentleman's attention. Remember that every expression of civility, to be of any value, must be perfectly voluntary, and any wish on your part, whether directly or indirectly expressed, to make yourself a favorite, will be certain to awaken the disgust of all who know it. I would not recommend to you anything like prudish or affected reserve, but even this is not so unfortunate an extreme as excessive forwardness. While you modestly accept any attention which propriety warrants, let there be no attempt at artful insinuation on one hand, or on taking a man's heart by storm on the other.

Be not ambitious to be considered a belle. Indeed I had almost rather you would be considered anything else, which does not involve gross moral obliquity than this. It is the fate of most belles, that they become foolishly vain, think of nothing and care for nothing beyond personal display; and not unfrequently sacrifice themselves in a mad bargain, which involves their destinies for life. The more of solid and enduring esteem you enjoy the better; and you ought to gain whatever of this you can by honorable means, but to be admired, caressed and flattered for mere accidental qualities, which involve nothing of intellectual or moral worth, ought to render any girl who is the subject of it, an object of pity. You are at liberty to desire the good opinion of every gentleman of your acquaintance; but it would be worse than folly in you to be ambitious of a blind admiration.

I will only add, that you ought to be on your guard against the influence of flattery. Rely on it, the man who flatters you, whatever he may profess, is not your friend. It were a much kinder office, and a real mark of friendship to admonish you tenderly, yet honestly, of your faults. If you yield a little to flattery you have placed yourself on dangerous ground, and if you continue to yield you are not unprobably undone.—[*Sprague*]

#### ADVICE TO MOTHERS.

Mothers! if you would train up your children to be useful members of society, keep them from running about the streets. The great school of vice is the street. There the orphan learns the vulgar oath or the putrid obscenity. For one lesson at the fire-side he had a dozen in the kennel. Thus are scattered the seeds of falsehood, gambling, theft, and violence. Mothers, as you love your own flesh and blood, make your children cling to the hearthstone. Love home yourself, sink the route deep among your domestic treasures; set an example in this, as in all things, which your offspring may follow. It is a great error, that children may be left to run wild in every street temptation for several years, and that it will then be time enough to break them in. This horrid mistake makes half the profligates, thieves, and drunkards. No man would raise a colt or an ox, on such a principle; no man would suffer the weeds to grow in his garden for any length of time. Look at the matter parents! See, more especially, that your children are not out at night, loitering around some coffee house or tavern.

#### MARRIED OR UNMARRIED—GET MARRIED.

A European philosopher has furnished the world with some very interesting statistics, showing the benefits of married life. He says among unmarried men, at the ages of from thirty-five to forty-five, the average number of deaths are only eighteen. For forty-one bachelors who attain the age of forty, there are seventy-eight married men who do the same. As age advances, the difference becomes more striking. At sixty there are only twenty-two unmarried men alive for ninety-eight who have been married. At seventy, there are eleven bachelors to twenty-seven married men, at eighty there are nine married men for three single ones. Nearly the same rule holds good in relation to the female sex. Married women at the age of thirty, taken one with another, may expect to live thirty-six years longer; while for the unmarried, the expectation of life is only about thirty years. (Of those who attain the age of forty-five, there are seventy-two married women for fifty-two single ladies. These data are the result of actual facts, by observing the difference of longevity between the unmarried and the married.)

#### FEMALE ADVENTURER IN INDIA.

The most remarkable circumstance that perhaps ever occurred under a native government was the arrival of an European lady, desiring and gaining military service under the Poonah government, by whom she was long known as "Jamal Khan," and highly revered. This lady was the daughter of a respectable barrister in Madras. From an extraordinary combination of circumstances, of

peculiar character of mind somewhat similar, perhaps, to that which led Lady Hester Stanhope to desire the title of Queen of Palmyra, Mrs. Hall took the command of a battalion in the Nizam's service at Hyderabad, and finding reason to dislike her position, came to Poonah, intending to take military service under the Peshwa, but a Brahmin, whom she implicitly trusted, proving unworthy of her confidence, Mrs. Hall caused him to be seized and beaten under which punishment he died; and although her life was spared, in consideration of her being a woman and a stranger, she was incarcerated in one of the hill forts, near Poonah, until shortly before her death. She was handsome and courageous, and dressed in the Muslim fashion with full trousers, a flowing vest, having a Damascus sword and plumed helmet, and was well spoken of and liked. I have never heard of her having taken the field, but she was, no doubt fully capable of doing so, and would have perhaps been as useful in exciting the troops as Joan of Arc; her sex and courage being well calculated to excite the superstitious reverence of the native soldiery.—[*Mrs. Poston's Facts and Fictions*]

#### HOPE AN ETERNAL PRINCIPLE.

Hope is the connecting link between the past and the future. It is a constant prophet, save that it always dresses out events to come in a gaudy hue, which fade and blacken when the wheel of time brings us to the consummation. Were it not for this earnest of the future, this principle implanted in the breast of man, he would have nothing for which to live—nothing to induce him to drag out a miserable existence. Never is hope so wild and imaginative and we may say deceitful, as in youth;—never so sober, so true, so stable, as in age.

Although hope is often delusive, yet in the greatest misery, the least flickering ray of sunshine peering into the caverns of the heart, revives the drooping soul, and excites action, as when some precious gem under the sun's beam flashes its radiance around the darkened cell, and springs into multiplied existence.

Hope is an eternal principle. Though in the last strait, man never ceases to hope; when the spark of life departs, in flies heavenward and rekindles under the altar of Freedom.

#### Scraps.

"A MAN'S A MAN FOR A THAT"—Robert Burns paid very little respect to the artificial distinctions of society. On his way to Leith one morning, he met a country farmer; he shook him earnestly by the hand and stopped to converse. A young Edinburgh blood took the poet to task for this defect of taste. "Why your fantastic geometry!" said Burns, "it was not the great coat, the scotch bonnet, and the saunter about horse I spoke to, but the man that was within; and the man sir, for true worth, would weigh down you and me and ten more such any day."

Bonaparte once at a party placed himself directly before a witty and beautiful lady, and said very abruptly, "Madam, I don't like that woman should meddle with politics." "You are very right, General," she replied; but in a country where women are beleaguered, it is natural they should desire to know the reason."

A cobbler, in his stall, offended a gentleman who was passing by. "Sirrah," said the gentleman, "you are a rascal, and if you come out I will give you a kick." "Thank you," said the cobbler, "if you would give me two, I would not come out."

RISTIC WIT.—In the township of New Milford, Ct. is a sandy plain, called on account of its barrenness by the expressive name of Pinch Back plain. Through the plain runs a small stream, and on this stream one Solomon Hill had erected a mill for grinding corn. But by one of those unlooked-for chances by which the best human calculations are disappointed, the faithless stream changed its course, so that poor Solomon's mill was left more than a mile from any water. The circumstance afforded an opportunity to some household wit to display his humor, and at the same time give the world a specimen of his talent at poetry. The following was found written with chalk over the mill door:

"Solomon Hill he built a mill  
(On Pinch Back sandy plain,  
There was no water in a mile and a quarter,  
'Unlucky chance' came a rain."

"Well, my lad that is small corn you are a hoing." "Yes," said the boy, while he continued his labor, "we planted small corn." "But it looks rather yellow." "Yes, sir; we planted the yellow kind," returned the boy. "But I do not believe you will have more than half a crop."—"No, sir; we planted on shares," hallooed the youngster, as the traveler rode away.

So Henry Wotton being asked if he thought a papist could be saved? "You may be saved," replied he, "without knowing that." An excellent answer to the questions of impertinent curiosity in religious matters.

INCOGNITO DEFENCE.—A soldier on trial for habitual drunkenness, was addressed by the president: "Prisoner, you have heard the prosecution for habitual drunkenness, what have you to say in your defence?" "Nothing please your honor, but habitual thirst."

CROQUET TO CHILDREN.—"Jim, does your mother ever scold you?" "No—something worse than that." "Does she ever whip you Jim?" "No, never whips me, but wakes my face every morning!"