

Across the River.

When for me the silent car
Parts the silent river,
And I stand upon the shore
Of the strange forever,
Shall I miss the loved and known?
Shall I vainly seek mine own?

Can the bonds that make us here
Know ourselves immortal,
Drop away like foliage sore,
At life's inner portal?
What is holiest below
Must forever live and grow.

For whom our earthly path
Bids us help each other,
Who His well-beloved hath
Made our Elder Brother,
Will but clasp the chain of love
Closer, when we meet above.

Therefore do not dread to go
O'er the silent river,
Death, thy hastening car I know;
Bear me, thou Life giver,
Through the waters, to the shore
Where mine own have gone before.

What shall we do with our Boys?

It is as impossible to make a chemist, or an engineer, or a naturalist, of a boy, if he has no special taste or aptness for these studies, as to make a poet out of a Digger Indian. It is no unusual circumstance for parents who have boys just entering upon manhood to come to us desiring counsel in regard to placing them in a chemical laboratory, that they "may learn the trade," as, to their eyes, the business appears remunerative. They have no special genius, no training in preparatory studies, no decided leaning towards chemical manipulation or research, but the desire is to have them "made" into chemists. There is a mistaken idea, common to many parents, that their children are as well adapted to one employment as another, and that they only need opportunities to learn regarding this pursuit or that, to become proficient and rise to eminence. More than half the sad failures so commonly observed are due to being forced into the wrong road in early life. Young men are forced into pulpits, when they should be following the plough; forced into courts of law, when they should be driving the plane in a carpenter's shop; forced into sick rooms, as physicians, when they should be guiding a locomotive, or heading an exploring party into the Rocky Mountains; forced into industrial laboratories, when they should be in the counting-room or shop.

It is a wise provision of Providence that nearly every boy born into the world has some peculiar distinctive capability, some aptness for a particular calling or pursuit; and if he is driven into channels contrary to his instincts and tastes, he is in antagonism with Nature, and the odds are against him. One of the earliest and most anxious inquiries of parents should be directed to the discovery of the leanings of their children, and if they find that their boy, who they earnestly desire shall adorn the bar or the pulpit, is persistently engaged in constructing toy ships, and wading in every puddle of water to test their sailing qualities; if he reads books of voyages, and when in a seaport steals away to the wharves, to visit ships and talk with sailors, it is certain he is born for the sea. Fit him out with a sailor's rig, put him in the best possible position for rising to the honorable post of ship-master, and you have discharged your duty. If, on the other hand, he is logical, discriminating, keen, fond of argument, let him enter the law; if he is fond of whittling, planing, sawing, constructing, and neglects his studies, turn him over to a good carpenter, to learn the trade. If he begins early to spend his pennies for sulphur, nitre, oil of vitriol, *aqua fortis*, etc.; if he is such a persistent experimenter that you fear he will kill himself, or set your buildings on fire; if his pockets are full of abominable drugs, and his clothing so charged with the odor of stale eggs that you refuse to admit him to the table at meal times, why, the chances are that he is a "born" chemist, and it will be safe to start him off to some technical school for instruction.

The question is, not what we will make of our boys, but what positions they are manifestly designed to fill; in what direction does nature point, as respects avocations or pursuits in life which will be in harmony with their capabilities and instincts? It is no use for us to repine and find fault with the supposed vulgar tastes of our boys. We must remember that no industrial calling is vulgar; every kind of labor is honorable; and it is far better to be distinguished as a first class cobbler or peddler than to live the contemptible life of a fifth rate lawyer or clergyman.

There are thousands of boys born into the world possessing scarcely a trace of ambition. Such do not care for distinction, or even for wealth; if they can procure the humblest fare, by constant toil, the aspirations of their boyhood, and subsequently of their manhood, are fully met. They are negative characters, happy with nothing, and suffer no elation or depression, whether in sunshine or under a cloud. These boys, who often afford much mortification to ambitious parents, fill a most important niche in the world; in fact, the world could not do without them. They constitute the great army of men who build our railroads, tunnel our mountains, load and unload our ships, cut down our forests, and manipulate the red hot iron masses which come from our blast furnaces. We cannot alter the temperaments of such boys. Nature is stronger than we are, and well it is that this is so. We may hold them by the power of wealth or controlling influences, but when these fail they fall at once to their place, in obedience to a law as irresistible as that which Newton discovered in the fall of the apple. Study to learn what they are capable of doing for themselves; encourage them to do well whatever work is suited to their natures. Regard every calling as honorable, the labor of which is honorably performed, and thus insure happiness and prosperity to our offspring.—*Boston Journal of Chemistry.*

Another Calvinist.

The following is vouched for by a prominent minister who was witness to the facts. It is given as a specimen of that spirit which seizes every opportunity, and presumes to censure for censure's sake. The adverse criticisms of some men are, if anything, positive compliments, especially when blindness or bigotry thus passes judgment.

In a certain locality, no matter where, a good Methodist brother entertained the notion that some one or more of the compilers of our new hymn book had Presbyterian proclivities. Of course, according to this standard, the new hymn book must embody more or less doubtful theology.

One day, a visiting minister, spending a Sabbath at the good brother's church, and observing that the new hymn book had been introduced, ventured to inquire, at a leisure time, about its adaptability, usefulness, &c. Whereupon a conversation, somewhat as follows, occurred:—

"Brother—, I see you have adopted our new hymn book here. May I inquire how you like it?"

"Not at all. I don't like it. It is too Calvinistic."

"Ah," said the minister, "why do you think so?"

"Because Mr. Anon has so many hymns in it. Anon was Calvinist. Toplady and Anon were both rigid Calvinists."

And here he referred, with some degree of pride, to a former pastor who agreed with himself on the subject of Anon's Calvinism.

"Mr. Anon?" said the minister, a little puzzled at the name, "Mr. Anon? I do not quite understand you; will you please point out one of the gentleman's productions?"

The brother opened the book, and put his finger down opposite a hymn in short metre, at the kind of type used for Wesley and Watts on other pages, and said:—

"There! that's one of Anon's hymns, and all his hymns are Calvinistic."

The minister, much amused, and yet maintaining his gravity, courteously advised the irate critic not to repeat that objection to the book, as any attempted explanation of Mr. Anon's doctrinal whereabouts would prove embarrassing. "For," he quietly added, that the brother might see the point, "A-n-o-n" is simply an abbreviation of 'anonymous,' a word used to indicate that the authorship is either unknown or unacknowledged.

But the brother's mind was made up; and he still holds to the opinion that Anon, as well as Toplady, was a rigid Calvinist!—*Methodist Recorder.*

How to Cultivate Unhappiness.

"A sorrow's crown of sorrow is remembering happier things." And this crown, so desirable to wear, is within the reach of almost any one who steadily applies himself to obtain it. There are few in the present who can fail to remember a happy past, which, by taking pains, and "making believe very much," they can represent to themselves as much happier than it really was. All relating to it should be frequently rehearsed, brooded on, and mourned over. But, if there are people whose condition is so obstinately unfavorable to artificial misery that, in fact, they are in the present infinitely happier, better off, and more free in action than at any former period of their lives, they must, in the language of novelists, throw a veil over the past, and, having no prospect or chance of wretchedness in the present, they must look to the future in which to recoup themselves of the sorrow which has been denied them and the unhappiness which they have so far failed to obtain. For the future is necessarily more fertile than the "has been"—"of all words the most pathetic," as an apostle of sorrow has beautifully said or sung—because imagination can roam at will; but Memory, though she may exaggerate and color, ought not to be allowed actually to invent. So, take it that we are young now, with friends and relatives around us. We may lose all. Fathers, our children may die, or break our hearts. Husbands, our wives may drive us into bankruptcy or the divorce court. It is advisable to dwell much on these possibilities and even realize them in thought; so that, even if circumstances turn otherwise, we shall, at least, have enjoyed these miseries by anticipation—admission of which no man can deprive us. Again: "Whatever is uncertain, old age and death are not. If you are young, reflect that the young may die; if you are old, that the old must die. By imagining a lingering, solitary death, caused by some especial dreadful disease, an ingenious person can easily create an amount of mental wretchedness little if at all inferior to the reality. "Thank God, it is no worse," is an expression often heard on the lips of the votaries of cheerfulness. Such a phrase or such a frame of mind as causes it ought to be decisively discouraged by those who seriously cultivate unhappiness. If these people are poor, they find comfort in the fact that they are not paupers; if they break a limb, they rejoice that they have not broken two. You must view things in another light and steadily anticipate the very worst. Think that mortification may and often does result from a fracture, that a head ache may be the precursor of insanity, that a pimple may be the beginning of a cancer, and that, if you die, even that may be an illusion, in which case you will certainly be buried alive. The precise degree of misery which it is possible thus to induce can hardly be gauged, but it is very considerable. It comes easy to practice, and is much more commonly to be met with than is generally supposed. There is also to be attained the habit of rejecting all fresh or accidental sources of happiness which open out, as it were, haphazard in life. These obstacles to your success must be conquered in detail; regard them with coldness and sour distrust, examine them one by one, discover or believe that you discover their hollowness or their fleeting, temporary, and unsatisfying nature. If, notwithstanding this severe ordeal, these advantages are undeniably real, substantial, and of a lasting

kind, little, indeed, can be done except to close your eyes, ignore them, and reflect that, in the natural order of things, decay follows blossom as surely as night follows day after the most beautiful of seasons. But, if by no exertion can you procure sufficient unhappiness of your own, you may still suffer vicarious misery in the persons of your friends, if such you still possess—apprehend all things, attain hopelessness, make the worst of the present, and look on the black side of the future. There is an art not sufficiently understood in this country—"poising" in your wretchedness and surveying yourself as it were from the outside. The French have the word and understand the knack or *trick de se poser*. "I am not made," says Rousseau, in his Confessions, "like any other man I have seen." And thence inevitably follows a burst of senseless self-pity; whence by easy gradations through dismally to blackest melancholy. It is true that all this will make people disagreeable, and that it has a distinct tendency to make them old and ugly may be taken as certain as that two and two make four. So best. The assurance of being thus rendered through advancing years more creaked and unattractive, more unfit to love and be loved, will cast a solid and legitimate gloom on any stray particles of the happiness which they have rejected and the pleasures they have forsaken.—*Pull Mall Gazette.*

The Heat of the Moon.

The Earl of Rosse has shown by experiments that the moon not only reflects heat to the earth which, of course, must be the case, but that she gives out heat by which she has been herself warmed. The distinction may not perhaps appear clear at first sight to every reader, but it may easily be explained and illustrated. If, on a bright summer's day, we take a piece of smooth, but not too well polished metal, and by means of it reflect the sun's light upon the face, a sensation of heat will be experienced. This is reflected sun heat; but if we wait, while so holding the metal, until the plate has become quite hot under the solar rays, we shall recognize a sensation of heat from the near proximity of the plate to the face, even when the plate is so held as not to reflect the sun heat. We can in succession try, first, reflected heat alone, before the metal has grown hot; next, the heat which the metal gives out of itself when warmed by the sun's rays; and lastly, the two kinds of heat together, when the metal is caused to reflect sun heat, and also (being held near the face) to give out a sensible quantity of its own warmth. What Lord Rosse has done has been to show that the full moon sends earthward both kinds of heat; she reflects solar heat just as she reflects solar light, and she also gives out the heat by which her own surface has been warmed.

It may perhaps occur to the reader to inquire how much heat we actually obtain from the full moon. There is a simple way of viewing the matter. If the full moon were exactly as hot as boiling water, we should receive from her just as much heat (leaving the effect of our atmosphere out of account), as we should receive from a small globe as hot as boiling water, and at such a distance to look just as large as the moon does. Or a disk of metal would serve equally well. Now, the experiment may be easily tried. A bronze penny is exactly one inch in diameter, and as the moon's average distance is about one hundred and eleven times her own diameter, a half penny at a distance of one hundred and eleven inches, or three yards and three inches, looks just as large as the moon. Now let a half penny be put in boiling water for a while, so that it becomes as hot as the water; then that coin taken quickly and set three yards from the observer will give out, for the few moments that its heat remains, appreciably that of boiling water. Or a globe of thin metal, an inch in diameter and full of water at boiling heat, would serve as a more constant artificial moon in this respect. It need not be thought remarkable, then, if the heat given out by the full moon is not easily measured, or even recognized. Imagine how little the cold of a winter's day would be relieved by the presence, in a room not otherwise warmed, of a one-inch globe of boiling water, three yards away! And by the way, we are here reminded of an estimate by Professor C. P. Smyth, resulting from observations made on the moon's heat during his Tenerife experiments. He found the heat equal to that emitted by the hand at a distance of three feet.—*London Spectator.*

Works of the Ancients.

In some respects the ancients certainly eclipse us concealed moderns. Our engineers gaze at their monoliths, their Cyclopean walls, their pyramids, and the ruins of such temples as those of Luxor and Baalbec, and ask each other how they were reared. What contractor of our time, especially if debarred of the use of steam-power, would undertake to quarry those obelisks of hard red granite, to carry them for vast distances, and to set them up without chip or flaw in the market-place? What masons could build such giant walls, without mortar, lead, or iron clamp, every monstrous stone accurately polished and fitted so closely that a knife cannot pass between the blocks? Above all, how were the dolmen and menhir reared by the rude Celtic nations, untaught by Rome or Greece? And by what prodigy of toil and adroitness did half-clad barbarians set up the astounding monuments of Stonehenge and Karnac? It is probable that we underrate the amount of science possessed by the priesthoods of old, by Druids, hierophants, and magi. The relics of what their sorcery did under their direction sufficiently prove that the clerical architects knew their business thoroughly. In turning a river, in cutting navigable canals, in opening mines, they showed no mean knowledge of statics. Their principal undertakings were such as we cannot approve, but of their jealously guarded acquaintance with sundry of the exact sciences, there can be little doubt. By dint of rollers and pulleys, of guys and cranes, by harnessing crowds of men and oxen to the lumbering slabs and shafts, by digging away the earth that had supported solid scaffolding for the support of the stone, they erected the granite Anaktors at which we can but marvel.

Yosemite Valley.

Yosemite Valley, of which the world has heard so much, is situated on the Merced River, in the southern portion of the county of Mariposa, one hundred and forty miles a little south east from San Francisco, but nearly two hundred and fifty miles from that city by any of the usually travelled routes. It is on the western slope of the Sierra Nevada, midway between its eastern and western base, and in the centre of the State, measuring north and south. It is a narrow gorge, about eight miles in length, from a half to a mile in width, and enclosed in frowning granite walls, rising with almost unbroken and perpendicular faces to the dizzy height of from three thousand to six thousand feet above the green and quiet vale beneath. From the brows of the precipices in several places spring streams of water, which in seasons of rains and melting snows, form cataracts of beauty and magnificence surpassing anything known in mountain scenery.

The valley-bottom is like a floor, the Merced River taking up much room as it wanders from side to side, apparently in no haste to leave. There are broad tracts of natural meadow, radiant in spring time with a wonderful carpeting of flowers. These meadows are separated by belts of trees, park-like groves of pines and cedars, black-oak and live-oak almost without undergrowth, and through which one may ride unimpeded in all directions. The walls are of granite, with an average height of about three thousand feet; in some places nearly vertical, and with very little debris at the base; in others, a pine covered slope leads up to gigantic towers, spires, or sharp-out peaks. There are now no fewer than five trails over which a beast of burden may climb in and out of the valley; and a man, sure-footed, cool-headed, and strong, may find a dozen places where he could, without real danger, scale those seemingly impassable barriers. The general color of the rocks is monotonous, varying from a bluish gray to an ochre, that, in full sunlight, is almost creamy in tint.—*Appleton's Journal.*

Is it Safe to Drink Hard Water?

There is a popular prejudice that hard water is dangerous to the health, and on that account we are constantly warned by physicians to beware of it, but in England one of the leading authorities on this subject, Dr. Letherby, after devoting many years to an investigation into the properties of the water introduced into English cities, and to a study of the sanitary reports on the subject comes to the conclusion that moderately hard water is safer and more healthful than soft water. Hard water is not only clearer, colder, more free from air, and consequently more agreeable to the eye and to the taste than soft water, but is less likely to absorb organic substances, to sustain the life of zymotic organisms, or to exert solvent properties upon salts of iron or upon leaden conducting pipes. The lime salts exert a beneficial influence upon the animal economy, and even protect the system from dangerous outward influences. Dr. Wilson, of Edinburgh, has also collected much valuable material on the subject, and comes to the same conclusions as Dr. Letherby. He takes the ground that the human body requires for its nourishment and support a supply of certain mineral salts, among which carbonate and phosphate of lime play an important part in building up the compactness of the bones and in other functions. We usually obtain phosphates of lime in our animal and vegetable food, but not from the water we drink. Carbonate of lime, however, is not contained in adequate quality in our solid food, but generally obtains in spring and well water.

It has been incontestably shown that in mountainous districts, where the water is more or less hard, the inhabitants exhibit the best physical development. On the other hand it is believed that in large cities the mortality is inversely as the hardness of water supplied to the inhabitants. A water which contains about six grains of carbonate of lime to the gallon is suitable for use in all household purposes. As a drink and for cooking food, such water offers the necessary carbonate of lime for the support of life in the simplest, most natural and most easily digested form, and it is at the same time more agreeable, fresh and sparkling. It is evident that our preconceived popular notions on the subject of hard water need revising, and that it may be better to use such water than to have recourse to rain or ice water.—*Journal of Applied Chemistry.*

Why Lace is Costly.

The manufacture of lace is carried to its highest perfection in Belgium. The finest specimen of Brussels lace is so complicated as to require the labor of several persons on one piece, and each operative is employed at distinct features of the work. The thread used is of exquisite fineness, which is spun in dark underground rooms, where it is sufficiently moist to prevent the thread from separating. It is so delicate as scarcely to be seen, and the room is so arranged that all the light admitted shall fall upon the work. It is such material that renders the genuine Brussels ground so costly.

On a piece of Valenciennes, not two inches wide, from two to three hundred bobbins are sometimes used, and for the larger width as many as eight hundred on the same pillow. The most valuable Valenciennes is determined by the number of times the bobbins have been twisted in making the ground; the more frequent the twists the clearer and more beautiful will be the lace. Belgium annually sells of this lace alone to the value of over \$4,000,000. Chantilly lace is always black, and is used chiefly for veils and flounces. It is very fine, and is extensively worn. Mechlin lace is made at Mechlin, Antwerp, and other localities.

As a shoemaker makes shoes, and a tailor coats, so should a Christian pray. Prayer is the Christian's business. Let us pray and strive; for the word of faith and the prayer of the just are the mightiest weapons.—*Luther.*

Scientific and Useful.

WARM WATER FOR PLANTS.

There are a great many who laughed at "such nonsense" when it was first proposed to water house plants with warm water, but it is now the rule, and those who do not use it are the exception. We notice a contributor to the "Department of Agriculture" dilates upon the benefit of its use as follows: "Last winter we had about one hundred plants in the house, and usually gave them warm water, and very frequently water that was much too warm for the hand; some water at or very near the boiling point, has been poured into saucers of the pots and just on the sides. We have about forty persons in the family, from different parts of the country, and their testimony is that they never saw so fine geraniums, heliotropes, fuchsias, verbenas, passion-flowers, clematis, etc. These plants show a very marked improvement; others have flourished finely under the treatment."

FILTERS AND FILTERING.

In every well-appointed kitchen there are tin or porcelain funnels. For filtering watery fluids it is only necessary to insert, in the choke of the funnel, a v-shaped piece of fine sponge. All such liquids, on being put into the funnel, will pass through the sponge and become quite clear. When this effect ceases, the sponge must be removed and well cleansed. Viscous fluids are best cleared by filtering through a cone of white blotting paper shaped by folding a square piece of the paper from corner to corner, then folding the triangle into half its size, and opening the folds; it will fit any funnel, which will act as a much-needed support to the paper. Vines, etc., poured into this will run through perfectly bright. In some cases where the wine is only a little thick from lees, cork, or other mechanically suspended substance, it can be made quite clear by filtering through a wad of white cotton put in the choke of the funnel; and when this answers it is much quicker than the paper filter. For jelly and oil, wool alone is the proper medium for filtering. The felted-wool jelly bag is pretty well known as the best means of clearing calves' foot jelly, and it also answers for olive and other oil. These bags are, however, too expensive to be generally used; hence they are rarely seen in kitchens. A good substitute for the wool bag is a cullender, on the inside of which a new flannel lining should be fitted, made of double stuff. A wad of white knitting wool, put in the choke of the funnel, will do to filter any small portion of such fluids.—*Scientific American.*

A PRETTY ORNAMENT.

Here is something pretty that is within the reach of every little girl. Try it:— "Take a white sponge of large size, and sow it full of rice, oats, or wheat. Then place it for a week or ten days in a shallow dish of water, and as the sponge will absorb the moisture, the seeds will begin to sprout before many days. When this has fairly taken place, the sponge may be suspended by means of cords from a hook in the top of the window, where a little sun will enter. It will then become like a mass of green, and can be kept wet by the mere immersion of it in a bowl of water."

WHY CAMPHOR SPINS ABOUT IN WATER.

If small pieces of camphor are dropped into water, they will begin to spin round and swim about in a most marvellous way. Mr. Tomlinson gave the scientific explanation of this. We must observe, to begin with, that every liquid has a skin which holds it; we can see that to be true in the case of a drop, which looks as if it were held in a bag. But the tension of this skin is greater in some liquids than in others; and it is greater in camphor and water than in pure water. When the camphor is dropped into water, it begins to dissolve and get surrounded with camphor and water instead of water. If the fragment of camphor were exactly symmetrical, nothing more would happen; the tension would be greater in its immediate neighborhood, but no motion would follow. The camphor, however, is irregular in shape; it dissolves more on one side than the other; and consequently gets pulled about, because the tension of the skin is greater where the camphor is most dissolved.

BRINE FOR PICKLING PORK.

Persons who have tested the following, commend it as giving the best pickle pork that they have ever eaten; eight pounds of salt, two ounces of salt-petre, three ounces of soda, two pounds of brown sugar, to each one hundred pounds of pork or hams. The meat must be kept carefully under the brine. If this is done, the above will be found to be salt enough for keeping the meat well.

KINDNESS TO CATTLE.

A Massachusetts farmer says in regard to the management of cattle: "My cattle like my company. When in the pasture they will follow me until I leave the lot, and as a general rule they come up to the barn yard every night about sunset, and in their way call for a lock of hay. Though I give them all they want, they take but a few mouthfuls, which satisfies them; and I am confident that it does them a good deal of good. It keeps their bowels regular and they thrive well, and are happy. They do much better than they did when I changed pastures once a week; for now they have a change of food every day, instead of once a week. Cattle need kindness, and they pay well for it. I can handle my steers and others as I please. They will come up to me while I am milking, and invite me to play with them. The time I think is not far distant when soiling cattle will be the most profitable where most of the 'farm can be cultivated. Provide a small lot for them to run in, feed green fodder, save all the manure, and our farms will grow richer."

A good old Scotch minister used to say, to any of his flock, when they were laboring under affliction, "time is short; and, if your cross is heavy, you have not far to carry it."—*Dodd.*