

A SONG FOR THE TWENTIETH CENTURY.

We tread a better earth to-day
Than that the fathers knew;
A broader sky line rounds away
To realms of deeper blue.
More ample is the human right,
More true the human ken;
The law of God has been a light
To lead the lives of men.

He led our generation on
In mist of smoldering fire;
To more than all the centuries gone
The marching years aspire.
Across the onward sweep of time
We strain our vision dim,
And all the ages roll and climb
To lose themselves in Him.

We gaze upon the eons past—
A blind and tumbling vast
And slowly, from the weaning vast
Behold a low emerge.
The waters seem to heave and sway
The atoms yearn and grope;
In chaos undenied,
Yet not a foam flake goes astray,
For He was wind and tide.

Oh, Purpose of the stumbling years,
Oh, Wistful Need and Hope,
Whereby in all the woven spheres
The atoms yearn and grope;
Flow through the wandering will of man
A tide of slow decree,
And merge our strivings in the plan
That draws the world to Thee,
—Chicago Standard.

ESTHER'S OPINION.

By HELEN FORREST GRAVES.

Mr. Martin had just come in to tea. It was one of those sultry summer evenings when the leaves hang stirringly on the trees, and dull electric fires blaze along the east, foreboding of a storm.

It had been very hot all day, the farm-hands had lagged at their work on the lowland meadow, and all the world's wheels seemed to revolve as if they were weighted. Mr. Martin was very tired, and withal, a little cross.

Perhaps Mrs. Martin was tired, too. She, poor soul, had been up since four o'clock in the morning. She had washed, taken care of four cows' milk, prepared three meals for the hungry farmhands, been up in the quarry woods to search for a family of adventurous young turkey-chicks, soothed the sorrows of a teething baby, and mended up the suit of clothes which Betsey Blim, the tailor's, had declared "not worth a needleful of thread!" because Thomas, her husband, had said that "willful waste was woeful want," and that there was a deal of wear in the suit yet, if only that was a stitch taken here and there.

But her cheeks were pink and her eyes sparkling when Thomas came in for all the heaviness of her heart and the dull pain in her back, for little Esther had come home from boarding school.

Esther, the youngest sister of all, the darling of the family-circle from which Mrs. Martin came, the pet for whom they all had scraped and pinched so that she, at least, might have a "Boston education."

And Esther sat in the window-seat, grown into a blooming young woman, with bronze-brown hair lying in fluffy masses over her fair forehead, porcelain-blue eyes, and a dress all trimmed with ribbon bows.

"Look, Thomas!" cried Mrs. Martin, excitedly, "it's Essie! Essie come home two days before we expected her!"

"Yes, I see," said Mr. Martin, in the cold, measured tones which always dampened his wife's enthusiasm like so many drops of freezing water.

"How do you do, Esther? Ruth, what are you putting cold chicken on that table for? Corned-beef is plenty I am sure. You had a great deal better save the chicken for the men's breakfast. Working folks have hearty appetites."

"Esther is fond of cold chicken," whispered Mrs. Martin.

"No one need want anything better than good corned-beef," judiciously pronounced Mr. Martin. "Put the chicken back into the pantry, and the apple jelly with it. Good stewed gooseberries are relish enough for anybody. We must economize in little things as well as large ones if we don't want to end our days in the poor-house."

And Mrs. Martin sorrowfully obeyed, while Essie watched her brother-in-law with large, grave eyes brokering inward surprise.

At the end of a week, Mr. Martin addressed his sister-in-law with serious purpose.

"Well, Esther," said he, "you've been here a week now."

"Yes," said Essie, "I've been here a week."

"A week is a good long visit," remarked Mr. Martin.

"It's long enough for some things," said Essie.

"Mrs. Martin thinks she would like to have you stay," went on Mr. Martin, after a puzzled glance at the blue, shining eyes. "And although, of course every one adds to the expense in a family like this, I've no objection to giving you a home, provided you are willing to earn it by hard work."

"Stop!" cried Essie, jumping up. "I haven't asked you for a home yet. And I don't mean to. And you are only making me the offer because Doctor Dorian says Ruth will break down unless she has a strong maid-servant to help her with the household. But there is no money that would hire me to make myself such a drudge poor Ruth is."

"Holy-fifty!" said Mr. Martin. "Young woman, you don't consider whom you are talking to."

"Yes, I do," said Essie, with emphasis. "To a bluebeard, to a stocky stone, a man who is grinding his wife's life out on the pitiless wheel of money-making. No, I wouldn't live as Ruth does, not if you would put me in a palace!"

"Humph!" said he. "Fine ideas you have got at this fashionable boarding school of yours. Well, if you don't like my offer, you're not obliged to accept it. Be a fine lady, if you please, and see where it will land you."

"Life is hard work, Essie, said Mrs. Martin, beginning to cry, in spite of herself; "and it's a woman's duty to help her husband."

"And I mean to help mine—when I have one," said Essie, blushing brightly. "But not by wearing myself out."

Mr. Martin shook his head.

"If Stephen Smith is foolish enough to marry that saucy gipsy, she'll lead him a pretty life," said he. "I wonder if she expects to sit on a satin sofa all her days, with a rose in her hand, and her hair frizzled, in that preposterous fashion, all over her eyes? But I warn 'em, they need never come to me for help! Esther has treated me with too much insolence for me ever to receive her again."

"I am sure she did not mean anything," said Mrs. Martin, apologetically.

"Well, then, her words belied her meaning," remarked Thomas Martin, grimly compressing his lips.

But Stephen Smith was apparently undaunted by the possibilities of ruin predicted by Farmer Martin, for he married Esther and went to the city to live, within three months.

"I'll give 'em a year to come back here and eat humble pie," said Martin vindictively.

"Oh, Thomas, don't talk so!" said his wife. "One would think you would be glad to have some evil befall them!"

"And so I should," said Martin, viciously grinding his teeth together. "That girl needs a lot of humbling, and I hope she'll get it."

Three years afterward there came one of those terrible droughts that undo a farmer's life-work in a season, and swept away his prospects as an autumn wind sweeps a sere forest.

The cattle died, a pestilence broke out among the flock of sheep, which Thos. Martin had just brought a high wind blew his best barn over, and disaster stared him in the face on every side.

"It's not use talking," he said. "I can't meet this year's interest on the mortgage. The place will have to go."

"Oh, Thomas!" groaned Mrs. Martin, who, poor soul, now lay all day on a hard wooden lounge, and groaned to see how woefully she was needed at the help.

"I can't help it," said Martin. "Everything is against me."

"It's only five hundred dollars," said Mrs. Martin. "You might borrow it."

"Who'd lend to me, I'd like to know?" said Martin, remembering with a sigh how he had hardened his face against every humble suppliant in the golden days of his prosperity.

"There's Esther's husband," suggested Ruth. "I've heard that he is doing well in Boston. And, after all, Esther's my own sister."

Mr. Martin's features contracted into a hideous grimace. Of all the bitter cups which circumstances had held to his lips of late this was the bitterest.

But it had to be swallowed. There was no help for it.

"I didn't suppose Smith's folks lived as genteel as this," said he to himself, as a neat maid led him across an octagonal vestibule, floored with black-and-red marble, and fragrant with flowers, under the golden fringe of an antique portiere, into a large, tastefully-furnished room, where the singing birds, the open piano, the low sofa all betokened no lack of money.

Yes—Mr. Smith was at home. He had not yet gone to the store, and presently he came in, waving welcoming to the man who had married Esther's sister.

"Lead you a thousand dollars?" said he. "Of course we can lend you a thousand dollars. What is money for if not to help each other with. Ch. yes. We've a snug little sum laid up in the bank, and we live very comfortably. My business? Yes, it's tolerable, but it never got us all these things," glancing at the soft arabesques of the carpet, the graceful folds of the crimson silk curtains, and the easel filled with proof engravings.

"That is my wife's doing."

a sigh, how was Stephen to know all that had come and gone?

Essie's light step, on the passageway, sounded at this instant; and she came in, dressed in a picturesque brown linen blouse; her hair still shading her forehead, like a fringe of floss silk, after the old, graceful fashion.

"Yes," she said, brightly, when her brother-in-law's errand was stated to her; "of course you shall have it. I owe you as much as that, I think, Thomas, were it only to erase from your memory that last scene of our parting. How defiant and insolent it was to be sure!" and she laughed the sweetest of mellow laughter. "But I insist upon it, still, that my theory was correct; a woman can work, without becoming a drudge."

"Perhaps she can," slowly and unwillingly admitted Thomas Martin—"perhaps she can! But it didn't use to be so, in my mother's days."

And he sighed to think of poor Ruth, broken down in the meridian of her days, by the cruel necessities that drive the wife of an American farmer to her doom. Was it his own fault? Perhaps it was.

Essie's thousand dollar loan was the straw which saved him from figurative drowning. He paid the interest, bought a new flock of merino sheep, and weathered the storm.

And the next year when Essie came to the farm to assist her sister, for the first time she found Ruth sitting on the piazza, and watching the little lambs play in the sunshine with listless, heavy eyes.

"Yes," said Ruth, "I can't work any more. But Thomas is very kind. He don't grudge the hired girl's wages, and he is always saying he wished he had taken more care of me in the old times. But it's too late now. You were right, Essie, when you said you wouldn't stay on here, and help with the housework."

"Yes," said Essie, fondling the thin hand which lay on the arm of the rocking-chair, "I think I was right."

—New York Weekly.

QUAINT AND CURIOUS.

The propellers of the fast auto boats revolve 1250 times a minute, giving a speed of 25 miles an hour.

Of all the money transactions in the country, 97 percent are carried through by check; only 3 percent by notes or gold.

Every fire station in Berlin is equipped with an oxygen apparatus for rescuing persons overcome by smoke and heat.

Radium is the most remarkable substance on earth. The energy that a gram will give out before it is entirely dissipated would raise 500 tons one mile high.

Of the 12,703 newspapers and periodicals published in Germany, more than 27 percent are in other languages than German, 9 percent being in English alone.

Austin Smith of Clinton, N. Y., is the oldest living college graduate in this country. He celebrated his 100th birthday recently and was graduated from Hamilton college in 1823.

A German statistician states that every year the dentists use about \$500,000 worth of gold and that the richest gold mines in a few centuries will be graveyards and cemeteries.

There are upward of 80,000 inhabitants on the slopes and skirts of Vesuvius. If it were not for the fertilizing effect of the volcanic products not more than one-tenth of that number would be able to find means of subsistence there.

Walnut is only employed in France in cabinet and carpenter's work. In 1902 the imports of walnut were 2432 tons and exports 5623 tons. During the last four years the imports have steadily declined, while exports have increased from 3599 tons in 1899 to 5023 tons in 1902.

El Cafetal, a coffee trade journal published in New York, is authority for the statement that the quantity of coffee yearly bought and sold in the world's trade is worth \$255,000,000, which probably corresponds to a net yield from over 1,800,000,000 coffee trees in full bearing.

A jeweler in Turin has made a tiny bead of a single pearl. The hull is finely shaped, and might serve as a model for a racing sloop, the sail is of beaten gold, studded with diamonds, and the binnacle light is a perfect ruby. An emerald serves as its rudder and its stand is a slab of ivory. Its weight is less than an ounce, and it is said to have cost \$5000.

It is difficult in Germany for a professional rogue to enter a family as a domestic servant. There every servant has a character book, in which the mistress must enter the dates of the coming and leaving of the servant, with her character while in the service. This the girl is obliged to take to the nearest police station and have it dated with the official stamp, thus preventing the manufacture of bogus recommendations.

Behind the Mark.

"So you're going to send his letters back, are you?" asked the blonde.

"Yes," replied the brunette, with tears in her eyes. "But not until I have copied them all. They will make a splendid book, and I have a lovely title for them already—'The Letters of a Lazy Lover.'" —Cincinnati Times-Star.

TORPEDOES IN WARFARE

THEIR SUCCESS IN CHILI, BRAZIL, CHINA AND JAPAN.

Low Cost of the Destroyer Devices by Which Battleships Hope to Escape Destruction by the Swift Machine.

The Whitehead automobile torpedo may be regarded as the parent of almost all the automobile torpedoes which are now in use in the navies of the world, writes Sir William Laird Clouze in the London Telegraph.

Our own service torpedoes, which are made at Woolwich, at Portland, and at Leeds; the French service torpedoes, many of which are made at Toulon; the Russian service torpedoes, which are made in Russia; the German service torpedoes, which are made in Germany—all owe their existence to the original invention of Mr. Whitehead, an invention now more than a generation old; and although each national type differs somewhat from every other, each still bears a strong cousinly resemblance to the service torpedo which the firm of Whitehead makes today at Flume, on the Adriatic, for such powers as have no torpedo manufacturing plant of their own. Among these powers is Japan.

It is true that the original Whitehead was a weapon that traveled on the surface of the water only, while the modern automobile torpedo is essentially a submarine engine. Many years, nevertheless, have now elapsed since the marvellous weapon, by steady evolution, became extraordinarily perfect and formidable, although it is but right to add that its improvement has been continuing from first to last, and is not yet at a standstill. Strange to say, however the significance of the automobile torpedo as a factor in naval warfare is only now beginning to receive adequate recognition.

The weapon has always had its enthusiastic champions of course, although until quite recently they have been the few, while its detractors have been the many. According to some, the torpedo was little better than a bogey, according to others, it was suitable for use only against vessels at anchor, or vessels, with incompetent, if not criminally careless, crews on board; according to yet others, it could never be employed with advantage against ships of the civilized and well-disciplined races, especially if such ships chanced to be under way.

It was admitted that the automobile torpedo had won success during the civil war in Chili, during the revolutionary fighting in Brazil, and during the conflict between Japan and China; "but," said the wiseacres, "wait until one of the leading naval powers is concerned, and then you will see that although the torpedo may be all very well against South Americans or Yellow Men, it won't work against civilized Europeans."

In spite of this sort of discouragement, which reached them from within the various services as well as from without, torpedo officers have never ceased to study and develop their favorite weapon. They increased its speed from 10 to 12 to upwards of 30 miles an hour; they increased its range from 300 to 400 to a couple of thousand yards or more; they increased its explosive-carrying capacity from 30 to nearly 200 pounds; and they increased the accuracy of its submarine flight, both literal and vertical, until, even in a cross-running tide-way, its precision could be depended upon. By means of a device which is now being perfected in America the speed of the weapon can be increased to some 40 miles an hour up to 2000 yards. The process employed is a mere superheating of the compressed air as it is fed from the "flash," or reservoir, to the driving machinery; and it involves little additional expense. We know now what the Japanese, acting not against careless and ignorant Celestials, but against the finest officers and best ships of a leading European navy, has been able to do with this perfected engine of destruction. No one will ever again decry the power of the torpedo.

And this terrible torpedo, in its most highly developed form, costs only about £400. A big battleship costs anything from a million to a million and a half sterling; yet, as events have shown, it may easily fall victim to its small and absurdly cheap foe. Of course, I do not mean that the mere outfit of say £400 is likely to be the sole expenditure involved in the crippling of a 15,000-ton Casarewitch. The torpedo, if used at sea, must be discharged from a vessel of some sort, by men who must inevitably run some risk. But the craft which are usually employed on torpedo work are small, costing, it may be, no more than from £15,000 to £20,000 apiece, and having but small crews. Thus, there may be on one side but £25,000 worth of material and 15 and 20 lives, and on the other a ship worth £1,200,000, with 750 people on board; and, as we have seen the cheap little boat may spoil the career of the splendid machine.

Even if the big ship do her worst in such a case, she can do nothing adequate. Let her sink half a dozen of her twopenny-halfpenny opponents and down all their crews, she must still have run awful risks—risks which are quite out of proportion to the objects to be gained.

Is there, then, it will be asked, no way of safety for the big ship? Undoubtedly there is. The nose of the modern torpedo is furnished with a "cutter" which will shear a way through any ordinary steel net that may be hung round a ship for her protection; but there are nets—and our navy possesses them—which are cutter-proof, and, moreover, these nets, although at much inconvenience, can be

kept hanging round the threatened vessel, even while she is moving at low speed through the water. Such devices, combined with the keeping of a good lookout by means of fast scouts, the cultivation of coolness and accuracy at gun practice by night as well as by day, a proper knowledge of the uses and limitations of the searchlights with which every modern vessel is provided, and the maintenance of perfect discipline in all circumstances, should deprive the torpedo and the torpedo boat of some of their terrors. Nevertheless, the menace must always be a very serious one indeed.

It may be worth while to add that the Japanese are understood to be in possession of a few automobile torpedoes of altogether exceptional size—having a diameter that is as much as 24 inches, or six inches more than the biggest service torpedo of other nations. Whether any of these were with the fleet off Port Arthur is, however, doubtful.

It will also be useful to add that at the opening of hostilities Russia may have had about 20 destroyers and 12 or 15 serviceable seagoing torpedo boats at or near the scene of action. At the same period Japan had at her disposal 15 torpedo boats of various classes, all fit for work. Some of these can scarcely fail to play an important part later in the campaign.

BRAIN REST.

Medical Disquisition on the Curative Properties of Prolonged Sleeps.

As long ago as 1833 Dr. J. Leonard Corning of New York brought forward this plan of managing functional nervous disorders in a monograph entitled "Brain Rest, a Disquisition on the Curative Properties of Prolonged Sleep," and in a subsequent edition, published in 1885, the whole matter of practical management was elaborated to the last detail, says the Medical Record. Dr. Corning observes that "as applied to the brain, rest implies something totally different from that which is described by the term when used in connection with the muscle, joint or spinal cord. This radical difference is chiefly owing to the fact that the brain being an organ, of the intellectual processes, rest in so far as it concerns that organ, means nothing less than a cessation of mentalization, with all thereby implied. It is impossible by a mere fiat of the will to cause cessation of thought; the very idea embodies a contradiction, for the will as physiologically understood is itself a product of very complicated intellectual, and cannot, therefore, be regarded as a thing sui generis—a something without the pale of other psychical processes." Only during sleep is the ideal repose of the cerebral faculties realized. But while a physiological amount of sleep is sufficient to achieve this in health, the period of unconscious repose must be greatly augmented when by overtaxation or inordinate mental strain the nerve cell has become debilitated, and is no longer able to hoard up a sufficient store of energy during the usual period of unconsciousness. It is in such cases that prolonged sleep, a sleep continued for 10, 15, or even 20 hours at a time, achieves the most striking results.

"As a rule," observes Dr. Corning, "I am in the habit of secluding the subject in a darkened room, eventually for from 10 to 15 hours at a time, according to the amount of sleep it is desired should be had during the 24 hours. I do not, however, attempt great things in the way of sleep at first; but, on the contrary, the duration of the period of unconsciousness is progressively increased by the utilization of habit, hydrotherapy, appropriate food, and, in urgent cases, moderate medicinal treatment. In extreme cases the period of sleep is prolonged to as much as 20 hours at a time, the patient being awakened and given small quantities of nourishment and then allowed to sleep again. He warns, moreover, against the evils accruing from attempts to keep in bed nervous, irritable persons while in a conscious condition. Such individuals should be told to lie down only on the appearance of drowsiness, which in intractable cases, may be brought on by the moderate use of sedatives, during the latter part of the day, and exceptionally by the exhibition of hypnotics before retiring. Recumbency, then, is purely incidental, the prolonged unconsciousness is all. In thus strenuously insisting on the radical difference between cerebral and ordinary corporeal rest, Dr. Corning has rendered a substantial and practical service.

Living for Ideals.

That was a wise old clergyman who urged his brethren not to admit young men to the ministry unless they were evidently more broad minded and enthusiastic in their faith than their elders. "We must allow," he said, "for the inevitable shrinkage." The same allowance is necessary in every life for the sure closing in of the real upon the ideals of youth, and the unavoidable narrowing of hopes and aim that must come with middle age. The more idealism we start with, the more certain to receive, the more joyous life will turn out to be as we go on living. The dreariness of the middle-aged view of life springs largely from the fact that his ideals are so shrunken as to be no longer a source of vitality, of renewal. As long as we believe in life, and in love, and in friendship, and in heroism, and in other ideal possibilities, life is worth living, and we are strong to take our part in it. Living for ideals is happy and courageous living. Living without them is "the dull gray life and apathetic end." —Harper's Bazar.

TURKS LOSING NERVE.

Demoralization in the Army and Navy of the Sultan.

It is said that the Turkish soldiery is becoming demoralized to the point where displays of cowardice are common, says the Chicago News. Some extraordinary instances of this are related by a recent traveller there, who declares that the Turkish troops have displayed their lack of nerve many times in recent encounters with insurgents. When actual fighting is to be done many of the soldiers seek seclusion in adjacent fields or escape the observation of their commanders by getting into streams and ponds and immersing themselves in water up to the neck. It was near Uskub that a resort to this method of avoiding trouble was actually observed. An engineer corps had been summoned hastily to the nearest bridge over the Vardar, where bombs had just been thrown, and found the guard especially placed there to protect the bridge conspicuously absent. It took the officers a considerable time to find what had become of their missing men.

Apparently the demoralization of Turkey's fighting forces extends also to its naval vessels. There is a guardship at Salonika, a fairly modern looking small cruiser, lying year in, year out, peacefully at anchor in the bay. One day an order came to the commander to take a cruise, and the consternation of that gallant officer was great, because no screw steamer can move without a shaft, and that had been sold some time ago. But he was a man of resources, and had a shaft made of wood, praying that it would break within the first few minutes. The wooden shaft held by some miracle, and as the cruiser slowly steamed out of the gulf the captain's heart sunk, for he had no desire to go to sea with a shaft that must break sooner or later. So he sent below and had the shaft sawn half way through. A little extra steam and the desired result was accomplished, and the guardship was towed back "disabled."

Some of the Albanians whose insurrectionary operations have been an occasion for concern both to Turkey and to the powers which are trying to compel reform in that region are curiously ignorant as to the conditions in the outer world. A writer who visited an Albanian monastery says: "The fact that I write impressed these worthy friars greatly, and Padre Giocchino, politician as are all Albanians, made a wonderful suggestion. 'Write a long article, my son,' he exclaimed enthusiastically. 'Thou knowest us and the bravery of thy nation. Suggest an alliance against Europe that will assuredly destroy the balance of the powers.' The alliance which the padre expected to overturn the balance of power was to consist of England, Italy—and Albania."

Greeks and Romans Used Shorthand.

The existence of stenography among the Greeks and the Romans is certain. The shorthand that they used was a form of writing in which each word was represented by a special sign. The letters of the alphabet, with modifications, connected so as to admit of great rapidity of execution, formed the elements of these characters. They date at least from the first century before Christ.

In the second century A. D. is found the term stenographer (stenographic character) in the Greek orator, Flavius Philostratus.

Origen of Alexandria (185-254 A. D.) notes his sermons down in shorthand, and Socrates, the ecclesiastical historian of the fourth century, says that part of the sermons of St. John Chrysostom was preserved by the same process. In the first century B. C. a discourse of Cato Uticensis, according to Plutarch, was taken down by shorthand reporters.

The development of shorthand was due especially to Marcus Tullius Tiro. Born in Latium in 103 B. C., Tiro, who was a slave, was brought up with Cicero, who was some years his junior. Freed, he became Cicero's secretary, and in this capacity aided him greatly. In the famous trial of Catiline (63 B. C.) the stenographic rapidity of Tiro was at its height.—Chicago Tribune.

How Oil Pipe is Cleaned.

The long pipes that carry crude petroleum from the oil wells to the refineries many miles distant are cleaned by an ingenious device. As the oil flows through these underground conduits some of the paraffin in the fluid incrusts the sides of the pipes, and proves a serious hindrance to the free passage of the oil. The device that is used to remedy this evil is a knife about two feet in length, with a sharp edge, constructed like the thread of a screw; indeed, the knife resembles a huge headless screw. It is, of course, slightly smaller than the pipe, through which it is to pass. When the thickness of the crust of paraffin renders a cleansing necessary, this instrument is inserted in the pipe at the oil fields. The pressure of the stream of oil hurries along, and scrapes the channel clean. It turns and twists and cleanses in this manner throughout its whole journey, and finally drops from the pipes in the midst of the vast stream of petroleum that empties into the receiving tanks. Its edges are duller than when it set out on its journey, but otherwise it is in perfect condition. It is at once shipped back to the oil wells, where it is sharpened and laid away until its services are again needed.

The authorities in charge of the telephone service in Japan have decided to employ only girls, both for day and night duty, at the various exchanges.