

The Bee's Home Magazine Page

If a Dead Star Hit the World

By GARRETT P. SERVISS.

Everybody knows by heart the ominous passages of Scripture in which "wars and rumors of wars" and other violent upheavals in human affairs are significantly connected with the final catastrophe which is to close the present "dispensation" for mankind. There is, then, no cause for wonder in the fact that great numbers of people are inquiring with real, if partly concealed, uneasiness, whether the recent unprecedented looting of the spirit of war may not mark the opening hour of the awful "Dies Irae," said by the famous hymn, to have been predicted by David and the Sibyl.



This leads at once to the question what science has to say about the possibility of an "end of the world." There has survived, from some time in the last century, the notion that astronomers had proved, with mathematical certitude, that earth and the solar system are immortal. In truth, however, if they have proved anything on this subject it is that neither the earth nor the solar system, of which the earth is a member, is immune from destruction.

As far as physical possibility goes, science knows no reason why the world may not reach its consummation in such a manner that the accompanying phenomena would bear an astonishing resemblance to the dramatic scenes depicted in the Biblical prophecies.

Some of the ways in which science foresees that the earth may close its career as a habitable globe require an enormous lapse of time, and it may be confidently averred that the crisis in such cases could not arrive for many millions of years. For instance, the sun is doomed to ultimate extinction. In from 5,000,000 to 10,000,000 years it will no longer send enough radiant energy to the earth to keep life going here, and thus the earth must slowly freeze.

But this gradual process of extinction was not what the scriptural writers had before their imaginations, and it is not what nervous people have in mind when they talk of the end of the world. The elements of suddenness and violence are essential parts of the predicted, and for many minds, dreaded, and half-expected finish.

Here, again, science is accommodating. Two ways may be mentioned in which the earth may make a tragic exit without violating any "law" recognized by science

First, it may be run down by a "dead star." Astronomical collisions, once regarded as mere speculative possibilities, are known to occur, and sometimes on a stupendous scale. The most reasonable explanation that has been found for the occasional appearance of new stars is that previously invisible bodies of enormous mass have come into violent collision in the depths of space and, through the transformation of their kinetic energy into heat, have been largely, if not wholly, turned into incandescent gas and vapors.

The evidence is overwhelming that celestial space contains great numbers of dark bodies which once, probably, glowed as stars, or suns, and that they, like the visible stars, such as our sun, are speeding in various directions with velocities amounting to many miles, and sometimes to hundreds of miles per second. If such a mass should plunge into the solar system the disastrous consequences are easy to foresee. A body of that kind could not be seen until it had got near enough to reveal itself by the sunlight reflected from its surface, and after it had reached the degree of proximity only a few years could elapse before its blow would fall. Its mere passage through the solar system, even if it missed hitting anything, would be disastrous.

Cool-headed persons might find some distraction in watching its approach and calculating in advance the moment of the crisis. It might become visible with telescopes when it is yet 15,000,000 miles distant. But if its speed only equalled that of the sun, which is not a very fast travelling star, it would be upon us in seventy-five years, and if it traveled with the speed of the star 1860 Groombridge it would pounce upon us in about five years after the astronomers had caught their first view and warned the world of the danger.

Another way in which the earth, as far as concerns life on its surface, might come to a quick end is through the consequences of its internal cooling and shrinkage. The moon offers a possible warning here. Its entire surface is a volcanic wreck. Evidently there came a time in its history when the internal forces broke up its whole crust or even fused it with vast floods of lava. It may be that when a planet arrives at a certain critical stage in its cooling the shrinkage of its crust produces a tremendous outbreak of volcanic force and an upwelling of molten rock formed by enormous local pressures.

Changes of this kind, due to gradually increasing strain, are apt to be sudden and catastrophic. If such a disaster should happen to the earth its inhabitants would perish with their eyes fixed upon a scene of chaos as wild and awful as any depiction of the prophets of calamity.

unlock and there's nothing to keep away the burglars."

"You shouldn't marry a man who wasn't so terribly attractive that you'd live in continual anxiety about his getting lost, strayed or stolen," insisted the bookkeeper.

"Wouldn't have him," retorted the stenographer, "half the fun of being married is having to avenge a sister Annie on the housewife, looking out for marauders and trespassers on your own battlement and frustrating them."

"Well anyway," said the bookkeeper, "it certainly does get me going to hear of some big, husky guy, 25 or 30 years old, who has known how to take care of himself well enough to make a wad being taken away from his wife by some little girl young enough to be his granddaughter."

"Right-O," responded the stenographer.

Advice to Lovelorn

By BRADLEY FAIRFAX

End This Dangerous Affair. Dear Miss Fairfax: I have lived in this city eight months and not having any friends I ask your advice.

I am 21 and pretty. I am receiving attentions from my employer, who is married. He takes me in his automobile and to dinner. He tells me not to hurry to the office. My conscience tells me that am doing both myself and his wife an injustice, so I appeal to you to help me. R. A. W.

My dear girl, you have stated the dangers of your own case so well that there is hardly anything for me to add. Surely you are finding no pleasure in a course the dangers of which you clearly recognize. What you are doing must leave you in a state of feverish unrest and nervousness that is bound to make your life miserable even while you are pretending it is gay and festive. If you are strong enough to go to your employer and tell him with quiet dignity that you are heartily ashamed of yourself and insist upon having nothing but business relations with him in the future, it might be safe for you to keep your position. It might be, I say, but the one wise course for you to pursue is to go at once to some reputable bureau of employment, register there and take yourself out of the way of a man who, under seeming kindness and attention, masks the most dangerous enemy a girl can know. Don't throw away your young life in the pursuit of pleasure. You are only 21, and worth-while friendships are sure to come to you. Don't "persist" in a course you know to be wrong and dangerous. You have analyzed your situation—now end it.

Introduce Them. Dear Miss Fairfax: Kindly inform me whether it is proper and essential for a mother to meet her daughter's man friends the first time they call. My brother and I have argued this point several times, and now I write to you. My brother claims it is necessary and proper for mother to meet any caller the first time. I claim not the first time, but the third or fourth time. Which is correct? I am of the opinion that it is not imperative for mother to meet a young man, who might be just paying me a visit and who perhaps may not call again. MILDRED.

This is hardly a question of propriety. It is well to have your mother know your friends, and when they come into the house that is hers she is really the best man and so it is only a little courtesy to her to have her meet your friends. Try to do this just as soon as may be, but you don't have to base it on any numerical requirement. The first or second time, or even the third, will do nicely—just whatever is convenient and natural.

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The Chemical Basis of War

By Woods Hutchinson, A. M., M. D.

War is a great teacher, though a cruel and costly one. We fight hard to earn a living or make a fortune, but we still have a link back to let out when we are put to it to save our lives from battle, murder and sudden death.

Doubtless the inventor of navigation was a breathless and bleeding fugitive from a lost battle in the Stone Age, who put desperately out to sea on a log, with his spear for a paddle, with the yelps of his pursuers and perhaps a shower of flint arrows and stone axes behind him to keep his courage up to the sticking point.

Our first knowledge of the working of iron and the tempering of steel was born of slaughter and baptism in blood. Our early architecture and until the last few hundred years was overwhelmingly military.

Fort, castles, palaces, walled towns and even farm houses were built for defense. Any old hole in the wall or corner in their angles would do to live in. Invention ran strongly toward catapults and cannon, blunderbusses and bombs, gunpowder and dynamite; because the kaisers and kings, barons and bishops, who controlled all the money, would pay far higher prices for engines to kill their enemies and suppress rebels and heretics than for anything else.

It was a horribly wasteful and expensive school of invention. For the very first thing which its discoveries were used for was to destroy that increase and density of population and accumulation of wealth and resources which are the basis of further invention and progress.

Indeed, the world has made more progress in science and the conquest of nature in the past hundred years of comparative peace than in all the half million years preceding of almost incessant battle and slaughter.

And resources, and is so still. An interesting, most modern instance was furnished just the other day in the announcement—first from Columbia, then from New York university, then from a number of other colleges—that the rush of students anxious to study industrial chemistry had simply swamped their accommodations. In some cases the classes were nearly double the size that could possibly be accommodated in the laboratories.

As a matter of fact, humiliating as the confession is to our national pride we here in America are a full quarter of a century behind the times in the matter of the full utilization in commerce and industry and public life of chemistry in particular and modern science in general. If it is any consolation to us, England and her colonies are almost as backward as compared with Germany and Sweden and France and Austria.

But here is the situation: Twenty years ago the average successful manufacturer who was approached by a graduate chemist from one of our scientific schools and asked for a job, to equip a laboratory and put him in charge of it at a good salary, would have simply stared in astonishment. What under heaven could a pure chemist find to do in my business? And there are a good many otherwise intelligent men of affairs who would react after that fashion today. For more than twenty years ago that time no manufacturing establishments in Germany would have dreamed of starting in business without from one to three laboratories with a chemist and a couple of assistants in each, and would no more have thought of trying to run without a chemist than without an engineer or a bookkeeper. At that time, where America had one chemist engaged in manufacturing work, and England two, Germany had thirty.

But what do these high-priced scientists, with their expensively equipped laboratories, find to do in an ordinary paper mill or woolen mill or blast furnace or brewery? To put it very briefly, by getting at the bottom facts in the process of each institution; by analyzing its raw materials carefully and finding out just what it is in them which will work up and combine successfully, and the exact nature of other elements present or absent which fall to combine properly and make a bad result in the final product.

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Lighten Labor with Smiles

By ELLA WHEELER WILCOX.

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If you think and talk continually of the weary grind of your daily life, it will continue to seem so, and will not change.

How rarely do we encounter a human being who does not give utterance to a complaint of this kind. The mother of a family, with her household cares; the father at his office or shop; the teacher, the clerk, the commercial traveler, the merchant, the newspaper man, the author, the artist, and the man and woman of fashion—you have heard them one and all bemoan the monotony of life and its duties.

Why add your plaint to the melody? Why not sing new words to a more cheerful air? Your work must contain some pleasant features. If it is wholly and absolutely distasteful to you, you can never attain the best success, and you would be wise to seek other employment. This, if you are determined, can be obtained.

Once positively make up your mind what you want to do, and set your whole mental forces to bring about the desired result, and you cannot fail to attain it. No man or woman need remain in a position which makes life cheerless and disagreeable. An intense, persistent desire for something different will bring a change.

If, however, your work is not all unpleasant, then stop your constant fault-finding about its monotony. Your mind ought to be able to give variety to what you do. The sun rises every morning and sets every night, yet no two days are exactly alike. The sky, the wind, the atmosphere vary.

Let your thoughts vary your work. Begin each day with a resolve to find something pleasant and interesting in life. Enjoy your walk or ride to your office or shop. Walk a portion of the way if possible, and amuse yourself by deep inhalation of fresh air. There is great enjoyment in mere breathing, if you know how to do it.

We often hear it said of a man that he does not know enough to go in when it rains. Such ignorance is much less reprehensible than not knowing enough to breathe, and there are tens of thousands of human beings who belong in that category. Life and work assume much more interesting aspects when we learn how to breathe.

If all the way to and from your labor you are feeling sorry for yourself because life is monotonous, your are building the wall higher and higher which shuts you from the things you desire.

Stop it! Say each morning: "This is to be an interesting and successful day for me." If it does not prove to be, then say it the next morning and the next, until it comes true.

The moment you find yourself in an absolutely hopeless and despairing state of mind regarding your work—take a vacation. If only for a day, still take it. Let your brain rest by giving it new thoughts. You will return to work like one reborn.

If you are an author or a musician or an artist, do not sing that old refrain about wishing you did not have to make a pot-boiler of your talents; and that you might work only when inspired. It is a tiresome, worn-out theme, and you are wishing against your highest good when you give utterance to it.

Stop and think how few great men or women in any field of art were independent of it. The phrase, "necessity is the

mother of invention," applies to art as well as mechanics. The average artist, whatever be his mode of expression, is inclined to be an idler and a dreamer. If he were not spurred on by dire need, he would dream wonderful things and accomplish little. However you may feel you are prostituting your art by having to employ it as a pot-boiler, remember you are keeping all your abilities and activities alive and in use. Though you may do five pieces of work you do not care for, you may do a sixth which is great. That sixth you could not have created except by being in constant practice.

You might have dreamed it for years and continually postponed the actual labor necessary to its completion. But because you were accustomed to create as soon as an idea came to you, your great work was executed.

Necessity is a true friend to art. It is ungrateful and ungenerous to berate it. If you cannot achieve your best with it, you would never achieve it without it. Once in a thousand times we may encounter the artist who has genius and activity and ambition enough to succeed without the aid of necessity, but it is rare indeed.

Whether you are an artist or an artisan or a day laborer, take a hopeful, wholesome outlook on your life and labor, and stop grumbling and whining.

Do You Know That

Scarlet flowers stand drought better than any other.

It has been found that the collarbone is more frequently broken than any other bone in the body.

A trout egg takes from thirty-five to sixty days to hatch, according to the temperature of the water.

An analysis states that the starfish contains nearly 5 per cent of nitrogen and a small quantity of phosphoric acid.

The seeds of the tobacco plant are so minute that, according to an estimate, a thimbleful will furnish enough plants for an acre.

An angry ostrich is a great fighter. He strikes out with his feet, and his legs being immensely strong he can kill a man.

The butterfly, like the bat, invariably goes to sleep head downwards on the stem of the grass on which it rests. It folds its wings to the utmost, and thus protects its body from the cold.

In-Shoots

As a rule it is difficult to draw the line between bric-a-brac and junk.

One-half of the world does not know what grocer the other half hangs up.

The man who throws off his coat quickly does not always intend to fight.

It is better to pay bills promptly, even if it does make the collector feel small.

The real good loser is generally the one who is staking the other fellow's cash.

Job was a patting old guy, but he was never called upon to sit through an amateur show.

The children of the marriageable widow always have the mean habit of looking older than they are.

When reading some of the seed catalogues we can understand why the Garden of Eden was so attractive.

Some persons seem to think that if they feed a bulldog they are doing their part toward preventing race suicide.

A Kindly Help for Failing Strength

TOMORROW and tomorrow... the tide of years sets in and the autumn of life has come. Energy has become enfeebled, the blood thin, resistance is shaken and the digestive processes weaken—weariness gives way to sleepless nights.

Then will Sanatogen help! Not to replace the common articles of diet but to make them give maximum nutrition. Not as a substitute for medicinal treatment, or to give temporary stimulation, but to aid the nervous system in its direct control over the digestive processes, to enrich the blood, and to promote restful slumber.

For Sanatogen is the natural way. It is a chemical union of purest albumen of milk and an organic phosphorus preparation, thus supplying in most easily digestible form the best upbuilding elements and giving the starved cells organic phosphorus, that most vital food, "in such a form," as Dr. Saleeby says, "that the nervous system can actually take hold of it."

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And as over 21,000 physicians have themselves written in praise of what they have seen Sanatogen do in daily practice, you may indeed be sure that the reputation of Sanatogen is founded on truth and tangible results.

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Stealers of Husbands

By DOROTHY DIX.

"If there is one thing that gets my whole herd of Angoras," said the Bookkeeper, disgustedly, it is to hear people talking about some woman stealing a man away from his wife.

"Hear! Hear!" cried the Stenographer, pounding on her desk with the end of a lead pencil.

"And the newspapers fall for the same sort of stuff," continued the Bookkeeper; "every time you read about some old rooster with a yellow streak in his eye, as wide as a street deserting a fat wife and seven children for some little Fluffy Ruffles the papers always tell how Fluffy Ruffles took the old bouncer away from his wife."

"You'd think, to hear about them, that in all such cases the man was an innocent, blue-eyed infant with long golden curls, who had been kidnapped by some designing female as he was playing unobtrusively on his own doorstep and home off against his will to a No. 3 establishment."

"It has always seemed to me," agreed the Stenographer, "that the man who was stolen from his happy home must have been guilty at least of contributory negligence. Anyhow, that precious should not leave himself lying around loose where he'd be a temptation to predatory ladies!"

"The very idea of a woman taking a husband away from his wife is idiotic," snorted the Bookkeeper. "The men isn't taken. He goes, hot foot, himself. You never hear of a man being stolen from his wife by a woman who is older than the wife is, or homelier than the wife."

"No indeed," assented the stenographer, "the female heart burglar is invariably about from ten to fifteen years younger than wife, and weighs about half as much. If I had a husband and a home I'd keep a pair of scales in the front hall, and I wouldn't let any female lady person in who didn't register up to 120 pounds, and whose hair and teeth didn't fill me with suspicion that they were only hers by right of purchase."

"If I were a woman," said the bookkeeper, "I wouldn't waste any time watching other women. I'd keep my lampshade glued on to my husband. I shouldn't be afraid of any woman stealing him away from me. What I should be suspicious of would be that he would beat it away himself.

