

# CENTURY OF WONDERS.

ITS SCIENTIFIC DISCOVERIES HAVE PROFOUNDLY AFFECTED OUR LIFE.

The Nineteenth Will Always Take Position as One of the Most Memorable of Centuries—The Steam Engine Underlies All Our Modern Progress.

The following article was written for the 20th century issue of the New York World by Sir Norman Lockyer, K. C. B., F. R. S., author of "The Sun's Place in Nature," etc.

There can be no doubt that in the future history of the world, for thousands of years, the century that has just passed away will be recorded as one of the most memorable, if not the most memorable, to which attention can be drawn. This high position will be awarded to it on the ground that it is the one which has most profoundly affected the life conditions of the human race.

The salient point about the nineteenth century is that it is the scientific century. Theology, art, learning in the ordinary sense are at the end of it pretty much as they were at the beginning.

The gift of science to the opening years of the century was the steam-engine then coming into common use, Watt's patent expired in 1800. When one reads how it was that Watt achieved one of the most tremendous revolutions recorded in history one cannot help feeling that his position as "mathematical instrument maker to the university" (at Glasgow) had everything to do with it; he lived with his friend Black in an atmosphere of research. The steam-engine, so closely are all scientific applications bound together, underlies all our modern progress, for the reason that hand labor, thanks to it, has been replaced by greater powers.

One of the first applications during this century of the new source of power was to locomotion. This was done by Watt himself and Symington on the Forth and Clyde Canal in 1802.

Our present enormous battle-ships and mail steamers and our destroyers going at 35 miles an hour, are doubly the result of Watt's work. It is the steam-engine which builds them and drives them when built. It may even be that Mr. Parsons at the end of the century will prove to us that Watt's method of applying steam to marine locomotion can be improved upon for some uses.

Land locomotion by means of steam followed in 1825, the Rocket and the Stockton and Darlington railway inaugurating the long series of engines and railways which now make rapid and safe transit possible almost over the whole surface of the civilized world, both speed and economy being secured by James's invention of the tubular boiler.

Electricity comes next, with its wonderful record of electric telegraph, electric light, electric traction, telephones and wireless telegraphy, and all since 1830. Of the applications of electricity, after what has happened, he would be a bold man who would venture to predict where they will stop, or that no equally striking developments are yet in store for us. If they come it will be because the future will produce its Faradays or its Kelvins.

The saving of the lives of our sailors by storm warnings and the study of the laws of storms is one of the applications of the science of meteorology which the century has brought us—a result undreamed of by him who first "weighed the air." Nor do the benefits of science to our seafaring and seagoing populations end here. Ocean currents as well as air currents have been investigated and charted by hydrographers, who have added to these benefits by maps showing depths, so that now the contours of the bottom of seas and oceans are nearly as well known as those of the land surfaces.

More than this man himself has been proved to have been present on the scene contemporaneously with many now extinct animals at a time long antecedent to that favored by Archbishop Usher. This work has been extended by the modern science of archaeology, which has demonstrated the existence of settled communities and by no means rude civilizations thousands of years ago, and it is now evident that "in the noblest study of mankind" the geologist and archaeologist must work together to dive still further into man's early history.

But there has also been another very practical application of geological study. Geography long ago gave us maps of land surfaces; geology has now based upon them geological maps of priceless value to all interested in the products of the mine.

It was formerly thought that the study of organic nature could have no possible application; that the study of animals and plants led to classification chiefly if not exclusively.

In this region of thought we find another revolution as striking, if not more striking, than those already referred to. The genius of Darwin has evolved from this study "the origin of species"—that is the real cause of the introduction of new forms—and has brought us in presence of the work of evolution in moulding the animal and vegetable kingdom through the vast geological periods, and what is more important from the practical point of view, in our own times. While I am writing there is an international conference sitting on hybridization of plants and animals in direct relation to Darwin's work. This shows the way in which the most abstract generalization of science may affect industry. It was stated at the conference that

the whole orange industry of Florida must be abandoned unless a hybrid can be secured which will stand frost. Medicine and astronomy are certainly the most ancient of the sciences, and yet, strange to tell, the advances here have equalled any other to which I have referred.

I am an old man now, but still I distinctly remember how large in my youth was the number of faces marked with the small-pox encountered in an hour's walk. Such sights and the deaths and ravages caused by this fell disease have practically been abolished by vaccination introduced by Jenner in the first half of the century. Pasteur and Lister have made for themselves immortal names since then, and at the end of the century we find ourselves on the track of the causes of most diseases. The germs from which they spring are known, and preventive medicine is now a well-understood science. Hydrophobia, diphtheria, consumption and other dire human maladies show signs of capitulation, while Listerism enables the surgeon to succeed in operations which were formerly never attempted.

Much of this tremendous alleviation of human pain and the attendant increase in the span of life have depended upon the improvement in the microscope brought about by the study of optics. Strangely enough, the last important progress to which I shall refer comes to a large extent from the same source.

The earliest victories of astronomy were achieved without any instrument. The horizon formed the only point of available reference; then came instruments without the telescope and clock; next these were added. The steam-engine, improvements in the manufacture of glass followed, and permitted the construction of enormous telescopes. Finally we have the optical studies, to which I have referred, carried on in strict alliance with chemistry. Celestial objects which the human eye will never see are now studied in a hundred ways by means of photography, and the heavens have been expanded for us a thousand-fold, and chemistry has not stopped there. The substances of which the most distant worlds are composed are now well within our ken.

With hundreds of thousands of firm facts at our disposal we can now watch the gradual formations of worlds and study both cause and effect. Hence a new idea of cosmical evolution, and hence also an idea of another evolution which deals with the gradual formation of the chemical substances of which our own earth as well as the distant worlds are built up.

All the world knows of the many applications of the old astronomy, some of which have been so improved in recent years that a ship at 16 knots speed can determine her position to a mile in any part of the trackless ocean. The applications of the new astronomy are yet to seek, but they will come.

The Disturbing Snore. It was just at the most impressive point of the great Shakespearean production. The big audience gazed spellbound at the massive splendor of the stage, and drank in eagerly the impassioned eloquence of the famous actor. His subtle art had touched a responsive chord in the hearts of his hearers. The quiet intensity of the scene caused men and women to hold their breaths. The stillness was almost death-like. It was a triumph of illusion. And just then a man snored—a gentle, peaceful snore that told of refreshing slumber. The tension was broken. People laughed hysterically, as they do when sharply contrasted emotions are brought suddenly and unexpectedly into play. Again and again came that gentle snore, and finally it was drowned in a rustling of gowns and a buzz of comment as people turned to look. The great actor, who boasts the eccentricity of genius, knew that something had happened, but it is doubtful if the snore had penetrated across the footlights. He halted, paused a moment, and then went on, but with a noticeable coldness of manner. Had he known the truth he might have rung down the curtain, for he does such things.—Philadelphia Record.

Washington's Original Boundaries. The original boundaries of the "Territory of Columbia," as defined in the proclamation, included a ten-mile square, starting at Jones' Point, the upper cape of Hunting Creek in Virginia, the two lines beginning at an angle of 45 degrees, and after running far asunder uniting in a terminal point at the junction of the Potomac and the Eastern Branch.

The choice made by the president and his advisers having been abundantly justified by the experience of a hundred years, the story of how this choice was finally accepted by congress may be of some interest today. Various reasons have been given to explain why Philadelphia was not made the capital, among these the frequent and violent epidemics of yellow fever in the Quaker city. In point of fact, the most severe and prolonged outbreaks of fever occurred when congress was in session in Philadelphia, after the whole question of the residence had been finally settled, and the bill in favor of the banks of the Potomac passed.—Anne Hollingsworth Wharton, in "New" Lippincott.

The Distinction of Mobile. Mobile has her superiority as shown by the last census. Mobile is boss in the matter of marriages. More people per 1000 of population get married in Mobile than in any other city in the Union.



## FOR WOMAN'S BENEFIT

A Love of a Toque.

A charming hat seen the other day in New York City was flat and round in shape, with large full-blown roses of black velvet, each petal rimmed with a narrow line of frosted gold, and with golden hearts, massed closely round the crown and covering the brim, lightly veiled and black lisse. The hat was lifted off the head by a few white tea roses underneath the brim at the left side.

The Belt Fashionable.

The new broad elastic-webbed belts, thickly studded with steel facets, and fastened with a deep narrow oblong buckle in front should prove welcome, for they clip the waist so trimly and close, and give just that neatness to a blouse that it wants.

Belts of gold ribbon tissue are apt to be spoiled by not being properly mounted. It is quite useless to drag this soft, loose fabric round the waist like one would ordinary ribbon. It should be pinned to the figure, properly pinned and adjusted, and well boned and mounted on a foundation; then one secures a well-shaped corset belt.

Sure Signs of Old Age in Woman.

1. When letters to girl friends are mostly addressed "Mrs."
2. When she begins to care a great deal about the supper at an entertainment.
3. When she feels a sudden interest in church and charity work.
4. When she is attractive to very young men.
5. When she realizes the folly of dressing in sober colors.
6. When she compares the new way of wearing the hair with that when she first put hers up.
7. When—most fatal of all—the gravity of youth gradually gives way to incipient kittenishness.—New York Sun.

Neck-wear for Mourning.

Some very smart arrangements for neckwear are shown in the best shops now for mourning. The stocks are very high, built up with soft folds of crepe and chiffon, and trimmed with ruffles of crepe across the ends. Some dull-finish silk is used, too, in their make-up.

There are many new styles of neckwear intended solely for mourning which are unusually attractive. Mouseline de soie and chiffon are the favorite materials, and far more becoming than the dull silk ties or the pea de soie. A smart stock is finished with a narrow ruffling of chiffon, and the tie is of folds of chiffon with only the narrowest ruffling as a finish. Sheer white linen collars and cuffs are worn in the deepest mourning by widows, while the narrow collar and cuffs of hem-stitched linen are appropriate for any one to wear who wears mourning, whether for a near or distant relative.—Harper's Bazar.

Helen Keller Makes a Speech.

Helen Keller made her first public speech at the freshmen luncheon at Radcliffe college on the Saturday preceding Christmas. Her words were heard quite clearly through the hall, a remarkable triumph over natural infirmity in one who was once dumb. What she said was:

"Classmates—It is a great pleasure, and I esteem it a great honor, to be present here and speak to you. I am glad to have an opportunity to thank the class for their kindness in electing me their vice-president, and I hope that I may become acquainted with many of you. Although I cannot see you, I will soon know you by touching your hands."

There was long and enthusiastic applause for the girl who has overcome so many obstacles in the course of her college preparation. One sophomore who can use the sign language quickly communicated to Helen the warm reception her speech had received, and the girl's expressive face quivered with the joy of her achievement.—Cambridge Letter in Baltimore American.

Hints on Lace-making.

Too much stress cannot be laid on this. Make all your leaves alike, flowers the same, buds and filling. Many lacemakers use such a variety of stitches, which cheapens the work. The beauty of the intricate labor is lost in this endless variety, which is a hedge-podge, standing for really nothing. Take a rose leaf, bud and background; the centre of the rose naturally is a cobweb, the leaves one fine stitch, after the valenciennes school, the background a cobweb. Now fancy, as I saw today, the daintiest collar imaginable, each thread so carefully done, a piece of elaborate work; every leaf had a different stitch, each petal might have stood for a rose or a cabbage, and the background was a little of every stitch in the calendar of needlework. The poor soul who had exhausted months of patient labor "to have a real lace collar to hand down to her grandchildren," had succeeded in handing down a sampler of stitches, but nothing to show whether she had a genuine valenciennes, or a point-lace collar. She was triumphant over the fact that "she could make stitches

with the best of them." So do, do, if you wish to put any value into your work, keep within the confines of a certain type.—Harper's Bazar.

Table Tennis.

Table tennis is the name of a new game which was introduced in England a short time ago, and has already become one of the most popular of indoor amusements. It is the game of lawn tennis in miniature, played on an ordinary dining table. The net is a tiny one, made of gauze stretched between two uprights, which rest on a bar laid across the table. The balls are made of the thinnest kind of pyroxyline material, and are consequently very light. The racket has a slender handle and a blade with a frame about one-half inch thick, which is covered on both sides with thin drumhead material.

The play and counting are practically the same as in lawn tennis, but according to the rules "the player serving must not put his racket over the table nor have it about his wrist." That is, he must serve underhand and never overhand, but after service he may hit the ball as he likes, but he must not volley.

The contact of the light ball with the drumhead racket produces a pleasant sound, and because of this sound the game received the name "pompom."

Among the rules for playing the game are the following:

No faults are allowed; if a fault is served, that is, the ball does not go over the net or goes off the table without touching the opposite side to the server, a point is counted to the non-server.

If the net is touched by the ball, and the ball goes over, and otherwise the service is correct, it is a let, and counts nothing to either side. If a volley is taken, a point is counted against the person volleying.—New York Tribune.

Suggestions for a Paper Wedding.

The paper wedding, the first anniversary of a wedding day, is occasionally observed among a group of young folks, who turn it into a merry-making. They come adorned with grotesque paper caps extracted from motto crackers and sometimes in entire costumes evolved from gorgeous crepe paper. The paper wedding offers an excellent chance for a masquerade party, when paper of all sorts may be utilized, from pert, pretty Yum-Yum with a Japanese parasol to a frolicsome youth representing the yellow kid in an impromptu suit made from yellow journals.

There is the greatest latitude when it comes to gifts. The offering may be a dainty box of stationary or a book in the most artistic of bindings. For table decorations paper can be used lavishly, with paper table napkins, and even one of those beautiful tablecloths in paper which can be found in Japanese stores. Globes for gas and electricity, or lamps, can revel for that one night in wonderful paper shades, and where an artistic taste would demand flowers and wreathings of smilax or the delicate asparagus vines, it yields to the harmony of things and substitutes paper blossoms as true to nature as they can be found, with Japanese lanterns and lengths of paper ribbon for draping. If the decorator has fine taste, a house can be made really charming with paper decorations, if they are kept in delicate colors which harmonize.

At the paper wedding as in all other celebrations, the bride ought to wear her wedding gown, and after the passing of only 12 months, it is possible for her to be surrounded by her bridesmaids in their year-old frocks.—Good Housekeeping.



## FASHION NOTES

Chenille is coming to the fore as a possibility for coiffure ornaments.

There are new evening gloves with silk lacings and jewel-button fastenings.

Silk petticoats are being supplanted to a great extent by the wash skirts of dainty white lawn trimmed elaborately with lace and embroidery.

Gaily colored feather eyes are dotted all over different kinds of furs in boas, capes and muffs, and make elaborate and showy furs.

Black velvet is the material for a stylish little bolero, with revers embroidered in gold thread. A wide belt of folded gold tissue should be worn with this.

Angora felts are becoming popular, especially in the gray and brown shades. A pretty example of khaki brown, trimmed with bronze brown velvet and biscuit color liberty, with a shaded ostrich plume that combines all the brows in the toque.

Among the novelties in veiling are gold dotted and gold bordered veils, red and royal blue. These are, of course, only for ultra tastes and occasions, and black, browns and white continue the ordinary wear. The green veil has disappeared absolutely.

One of the handsomest winter toilettes imaginable has a gray broadcloth skirt, with inset bands of chinchilla in fan fashion at the two side seams. The jacket of the chinchilla is in bolero shape, with a wide belt of dull blue velvet, on which are sewn rows of narrow gold braid. The revers are of the same velvet, edged with the braid, and the novel collar is of the same cut, very high, lined with the fur and decorated with braid on the inside.

Anticipating the repeal of the State wolf bounty law, a number of stockmen in the Bad river section of South Dakota have contributed a handsome sum from their pockets and will keep up the warfare. The State has expended \$30,000 for wolf scalps and the present Legislature is not expected to keep up the appropriation.

Try Grain-O! Try Grain-O!

Ask your grocer to-day to show you a package of GRAIN-O, the new food drink that takes the place of coffee. The children may drink it without injury as well as the adult. All who try it, like it. GRAIN-O has that rich seal brown of Mocha or Java, but it is made from pure grains, and the most delicate stomach receives it without distress. 1/4 the price of coffee. 15 and 25c. per package. Sold by all grocers.

The revenue of the Dominion of Canada for last year was \$51,029,994, of which \$28,376,147 came from customs and \$9,868,075 from excise, the remainder being collected from public works and railways, postoffices, etc. The expenditure was \$42,972,270, and the surplus of \$8,054,719 is the largest on record since confederation.

Caughing Leads to Consumption.

Kemp's Balsam will stop the cough at once. Go to your druggist to-day and get a sample bottle free. Sold in 25 and 50 cent bottles. At once, delays are dangerous.

Thirty-five prominent American sculptors will contribute to the embellishment of the grounds and buildings of the Pan-American exposition at Buffalo. They are at work on 125 original groups of statuary.

The average depth of the ocean is a little less than three miles, or 15,000 feet.

There is a Class of People

Who are injured by the use of coffee. Recently there has been placed in all the grocery stores a new preparation called GRAIN-O, made of pure grains, that takes the place of coffee. The most delicate stomach receives it without distress, and but few can tell from coffee. It does not cost over 1/4 as much. Children may drink it with great benefit. 15 cts. and 25 cts. per package. Try it. Ask for GRAIN-O.

Lake Nicaragua is the largest fresh water lake between Lake Michigan and Lake Titicaca, in Peru.

In the police court in Cincinnati it has been decided that insanity caused by liquor is no excuse for crime.

The Herb Cure For Headaches.

Unlike the majority of remedies for the cure of headaches, the Garfield Headache Powders contain nothing that can injure or derange the system; they are made from herbs.

Spanish sheep are white, except those of LaMancha, which are black.

Beware of Ointments for Catarrh That Contain Mercury.

As mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten fold to the good you can possibly derive from them. Hall's Catarrh Cure manufactured by F. J. Cheney & Co., Toledo, O., contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure to get the genuine. It is taken internally, and is made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free. Sold by Druggists; price, 75c. per bottle. Hall's Family Pills are the best.

Experiments are being made in India with the locust fungus in the hope of exterminating that pest.

Best For the Bowels.

No matter what ails you, headache, a cancer, you will never get well until your bowels are put right. CASCARETS help nature, cure you without a gripe or pain, produce easy natural movements, cost you just 10 cents to start getting your health back. CASCARETS Candy Cathartic, the Scandia, put up in metal boxes, every tablet has U.S.G. stamped on it. Beware of imitations.

During the past year there was an increase of nearly \$30,000 in the value of monkey skins exported from the Gold Coast. It is estimated that at least 1,000,000 monkeys were killed in that district alone.

Lane's Family Medicine

Moves the bowels each day. In order to be healthy this is necessary. Acts gently on the liver and kidneys. Cures sick headache. Price 25 and 50 cents.

A proposition is being urged in Tennessee to increase the salary of the governor to \$5,000 a year. It is now \$4,000. It is thought also that the State should supply an executive mansion for his use.

Science Discards Brute Force

In medicine, Hoxsai's Group Cure contains only the spirit of drugs and deters Croup, Bronchitis, Pneumonia and Diphtheria. 50 cents.

There are irrigating ditches at Las Cruces, New Mexico, that have been in continuous service for three centuries.

When you have a headache, take a Garfield Headache Powder; it will cure the pain and relieve the accompanying nervousness and depression; it is the simplest and best remedy; it is made from herbs; it cannot harm.

It is claimed that Canada furnishes over 40 per cent. of the nickel of the world.

Throw physic to the dogs—if you don't want the dogs; but if you want good digestion chew Beecher's Pepsin Gum.

American machinery will be employed in the mines at Mysore, India.

# THE NERVES OF WOMEN



"I am so nervous and wretched." "I feel as if I should fly." How familiar these expressions are! Little things annoy you and make you irritable. You can't sleep, you are unfit for ordinary duties, and are subject to dizziness.

That bearing-down sensation helps to make you feel miserable.

You have backache and pains low down in the side, pain in top of head, later on at the base of the brain.

Such a condition points unerringly to serious uterine trouble.

If you had written to Mrs. Pinkham when you first experienced impaired vitality, you would have been spared these hours of awful suffering.

Happiness will be gone out of your life forever, my sister, unless you act promptly. Procure Lydia E. Pinkham's Vegetable Compound at once. It is absolutely sure to help you. Then write to Mrs. Pinkham, at Lynn, Mass., if there is anything about your case you do not understand.

You need not be afraid to tell her the things you could not explain to the doctor—your letter is seen only by women and is absolutely confidential. Mrs. Pinkham's vast experience with such troubles enables her to tell you just what is best for you, and she will charge you nothing for her advice.

Mrs. Valentine Tells of Happy Results Accomplished by Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM—It is with pleasure that I add my testimony to your list, hoping it may induce others to avail themselves of the benefit of your valuable remedy. Before taking Lydia E. Pinkham's Vegetable Compound, I felt very bad, was terribly nervous and tired, had sick headaches, no appetite, gnawing pain in stomach, pain in my back and right side, and so weak I could scarcely stand. I was not able to do anything. Had sharp pains all through my body. Before I had taken half a bottle of your medicine, I found myself improving. I continued its use until I had taken four bottles, and felt so well that I did not need to take any more. I am like a new person, and your medicine shall always have my praise."—MRS. V. P. VALENTINE, 586 Ferry Avenue, Camden, N. J.



\$5000 REWARD Owing to the fact that some skeptical people have from time to time questioned the genuineness of the testimonial letters we are constantly publishing, we have deposited with the National City Bank of Lynn, Mass. \$5,000, which will be paid to any person who can show that the above testimonial is not genuine, or was published before obtaining the writer's special permission.—LYDIA E. PINKHAM MEDICINE CO.