

Why Heavier-Than-Air Ships Are Able to Fly

By Edgar Lucien Larken, of the Lowe Observatory, Echo Mountain, Cal.



THE mathematical principle involved in aeroplanes, machines heavier than air, is that of gliding over a fluid. The air under the flat surfaces may be considered as being compressed—that is, a cubic foot of air under a moving plane weighs more than a cubic foot above it because there is more air in the cubic foot of space. And the greater the velocity of the plane the greater the compression.

Thus: Suppose that a horizontal or slightly inclined upward plane is moving in air under the force of a given impulse; it will traverse a much greater distance than a body of any other shape driven by an equal force. I tried this experiment up here by throwing stones and tin plates. Different shapes of stone, pieces of iron, wood, etc., were thrown out over a canyon below the observatory. Smooth stones did not go more than 250 feet, wood and iron bodies less. Then flat tin shingles were thrown horizontally or inclined upward. About twenty were thrown. Upon trial two were sent at the proper angle and speed to "catch the air," and they flew to a distance of not less than 1,500 feet.

This is the principle elaborated by Langley in his basic experiments. The reaction pressure of the air under the gliding plane was against gravitation and sustained all that part of its weight in excess of that able to be kept up by the air in its natural state.

With enormous speed a velocity theoretically, if not actually, could be reached where the air under the plane would be as a solid, be a road for the flying plane. Thus the air in front of a rifle bullet is very dense and has been photographed as a dark mass.

In front of lightning the air becomes solid and turns the electricity aside in zigzag paths. The air above and around melinite approaches a very dense state when the explosion occurs. Meteors, when they move with their maximum speed of forty-two miles per second, compress the air in front. The aeroplane rides on air which itself compresses. The greater the speed the greater the weight sustained.



How To Get It

A Few Rules that May Help You to Contract Nervous Dyspepsia

By Joseph Fitzgerald



NERVOUS dyspepsia, like that kindred ailment neurasthenia, is very prevalent in our progressive modern life; in fact, an observer at our lunch counters and dining tables might become convinced that it was a fashionable disease with symptoms of popularity that may tend to an epidemic.

For the benefit of those who have so far failed, after strenuous efforts, to contract the "classy" ailment, I append a few simple but effective rules which I am sure will not fail to make the user eligible for the "groucher's" list after a little practice.

Concentrate the mind continually on the stomach and articles to go therein. A healthy stomach works automatically. Your true dyspeptic should be able to draw an exact diagram of his digestive tract.

Subscribe to all the "health" magazines. Take daily cold spray baths before breakfast and be massaged twice daily.

If, after the morning spray, you practice fasting until lunch hour, you can soon eat sufficient at that meal to hold you for a few days. If you can succeed at this, your progress will be rapid, and a timely economy will reward you also.

Do not, under any circumstances, rest after meals, as this is only the habit of very healthy people. Worry as much as possible. If you have no business of your own to practice this on, get busy on some one else's.

If you are married and cannot coax your wife to join you in your dyspeptic fads, rehearse your symptoms to her at every chance. This is guaranteed to make a hypochondriac of the most cheerful optimist.—New York Sun.



The Natural Life

By David L. Brown



LIFE is an investment. You get out of it what you put into it in increased measure.

The music is not in the piano—it is in the soul of the player. The picture is not in the colors of the palette—it is in the artist's mind.

Moreover, you get out of life what you pay for. The investment does not have to be in dollars. It is made daily in effort, in sacrifice, in love.

It is put in the Bank of Humanity, deposited to the credit of your neighbor—for the world begins in yourself and ends in him.

The thing that pays best in life is to be natural. And this means: Let your real self show through all exterior coverings. Let your own personality color your environment.

Let every noble thought in you have expression—put each high resolve to the test of actual experience.

Let the life in you—vivacity, appreciation, enthusiasm, affection and spiritual impulses—bubble over in natural and frank manner.

For thus only can you be yourself. If you are anything else, you have nothing to invest in life, you have no principal—you are speculating on borrowed money.

Be natural!—New York American.



How Laughter Makes Fat

By Dr. J. E. Kennedy, Editor of the Iowa Health Bulletin



LAUGH and grow fat" is as old as the hills, and every bit as true today as it ever was. Laughter is not only a remedial agent, but is also a valuable preventive against a host of diseases. Here are the physical effects of laughter, and they explain for themselves why a good hearty laugh is the best kind of tonic for the system:

Laughter increases the blood circulation. It expands the lungs. It enlarges the heart.

It figures the diaphragm. It promotes the circulation of the spleen.

Laughter stirs up the vital regions of the body, gives them healthful exercise and produces a mental exhilaration which acts upon the system much as a brisk walk in a crisp atmosphere does upon the appetite.

Beware of theologians who have no sense of mirth; they are not altogether human.

Keep your chin up. Don't take your troubles to bed with you; hang them on a chair with your trousers or drop them in a glass of water with your teeth.

"YES, WIFE AND I ALWAYS DO A LITTLE GARDENING IN THE SPRING!"



—Cartoon in the New York Press.

PROSPERITY WAVE BOOMS WAGES OF MANY WORKINGMEN

Thousands of Skilled Workers and Laborers on Railroads and in Industrial Plants Get Increase—Advances Are Reported From Nearly Every State—Most of Them Are Voluntary, and Follow Unrest Because of the High Cost of Living.

New York City.—Substantial increases in the wages of workingmen, especially those on the railroads, in all parts of the United States are being granted. From nearly every State in the Union reports are received specifying increases. Many of them are voluntary. Some, but comparatively few, are the result of strikes or demands. In several instances Courts of Arbitration have upheld the demands of workingmen for more money, and the employers have complied.

Only last week increases amounting to more than thirty-two millions of dollars a year were granted by the different railroads and virtually promised by the United States Steel Corporation. The high cost of living and a feeling of general unrest among the laboring classes, because of differences in the purchasing capacity of a dollar to-day compared with that it had ten years ago are attributed as the causes for the increase. A wave of prosperity that has increased business all around and made profits greater has enabled the railroad managers and employers to make the increases.

An increase of three cents an hour has been granted to 12,000 workers of the Brotherhood of Railroad Trainmen and of the Switchmen's Union in Chicago. Eight thousand painters in the same city have been accorded an increase of five cents an hour. The bill posters there will hereafter receive \$21 a week, a raise of \$2. Elevator conductors have been raised from \$60 to \$65 a month.

From Albany reports are received of a proposed increase of the wages of its employees by the Delaware and Hudson Railroad. A number of factories and manufacturing firms have granted increases to their workers. Many of these have been voluntary.

In Boston, Brooklyn and East Boston 1500 painters have been accorded an increase of \$1.96 a week, making a wage of \$20 a week for painters and \$22.22 for decorators for forty-four hours' work. The conductors and trainmen of the New Haven Railroad system have received advances in wages.

The Norcross Brothers, building contractors in Washington, have granted an increase of fifty cents a day to their marble setters and the marble setters' helpers. Consideration is being given by the firm to a demand for an increase by the carpenters. An increase of three per cent. has been granted engine drivers on the Southern Railroad there.

Prosperity has settled on the great industrial population of Rhode Island. Some increases are noted there, but not many. A year ago substantial advances were made, and all the factories are working on full time and many on overtime.

Ten thousand employees of the Consolidated Coal Company, of Baltimore, have been granted a voluntary increase of three per cent. The Davis Coal and Coke Company is reported to be working on a new wage schedule for the benefit of its employees.

Ten thousand employees of the Baltimore and Ohio Railroad have been granted increases averaging five and six per cent.

Five hundred men at the independent iron plant of Moorhead Brothers & Company, in Pittsburgh, have received a voluntary increase ten per cent.

Senate Committee Finds High Cost of Food Not Due to Freight Rates.

Washington, D. C.—The special Senate committee investigating the high cost of food products has agreed upon a report prepared by a subcommittee to the effect that the testimony so far taken does not show that any part of the increase in prices is due to an increase in the freight rates.

On the other hand the tendency of the railroads has been to decrease rates in the period covered by the investigation of the committee.

The West Penn Railways and Lighting Company, of that city, employing more than one thousand men, has advanced wages one cent an hour, and also has announced a policy of giving pensions to its men who are unable to work longer on account of old age, disability or other causes. All employees who have been in its service ten years or longer are to be given \$500 in monthly payments of \$3.50. The new policy grants the family of an employe \$250 in case of natural and \$500 for accidental death, with a sick benefit of from \$8 to \$10 a week.

Here is a partial list of the companies who have increased their wage scales, and the number of men affected by the raise:

January 30.—Delaware, Lackawanna and Western Railroad, 2000 shopmen, an increase in pay of five and ten cents an hour.

February 11.—Iron League Erectors' Association, 5000 housemiths, increase thirty cents a day and promise of another twenty cents a day increase on July 1.

March 1.—Baltimore and Ohio Railroad, 1500 telegraphers, increase of eight per cent. in wages.

March 12.—United Power and Transportation Company, controlling the electric lines in Reading, Pa.; Trenton, N. J.; Wilmington, Del., and Norristown, Lebanon and Chester, Pa., 2600 motormen and conductors, increase from eighteen cents an hour to twenty-three cents an hour.

March 28.—New York, New Haven and Hartford Railroad Company, practically all the employees affected by raise, increases involving \$500,000 a year in wages.

March 28.—Western Maryland Railroad Company, 200 locomotive engineers, increase of eight per cent. in wages.

March 28.—Big Four Railway Company, large number of telegraphers, increase involved an additional expenditure of \$3400 a month for wages.

March 29.—Pennsylvania Railroad Company, 195,000 men, increase of six per cent. in wages, involving an additional expenditure on wages annually of \$10,000,000.

March 30.—Philadelphia and Reading Railroad Company, 37,000 men, including all its employees receiving less than \$300 a month, increase of six per cent. in wages.

April 1.—Consolidation Coal Company and others, 37,000 coal miners in Indiana, West Virginia and Pennsylvania, five per cent. raise, meaning an increase of \$20,000 a week in salaries.

April 1.—New York Central Railroad Company, 58,000 men receiving \$200 a month or less, an increase of seven per cent.

April 1.—Boston and Albany Railroad Company, all employees receiving \$200 or less a month, increase of seven per cent.

April 1.—Parlin & Orendorf Company, Canton, Ill., 2000 employees receive a ten per cent. increase in their wages.

April 5.—American Sugar Refining Company, all employees receive an increase in wages amounting to from five to ten per cent.

The railroad companies were the first to recognize the expediency of a general increase of pay, and other concerns seem to have been impressed with the same idea.

Poets' Descendants at Unique Banquet in London.

London.—A unique banquet was held in London, at which Lord Coleridge presided, the gathering being composed of 200 descendants of British poets.

The occasion was the anniversary of the birth of Algernon Charles Swinburne, and the diners included the Duke of Norfolk, Lord Lytton, Lady Lindsey, Lady Shelley and Helen Mathers (Mrs. Henry Reeves). There were many interesting speeches and recitations.



WORKING GIRLS' HOTEL.

The New York Federation of Women's Clubs made a formal decision at a recent meeting at the Hotel Astor, Manhattan, to undertake the founding of working girls' hotels on a business basis, and to form a stock company at \$5 a share to provide means to carry out the plan. The resolution was as follows: "To adopt the suggestion of a working girls' hotel put forward by a committee, to endorse the recommendation of its chairman, Mrs. Clarence Burns, and to form a stock company to bring about the completion of these hotels." One hundred and thirty-three shares, amounting to \$665, have already been promised.—New York Sun.

AMAZED AT THE COUNTRY.

Mme. Kaji Yajima, seventy-four years old, for thirty years head of a seminary for girls in Tokio, founder and president of Japan's W. C. T. U., has made her first visit to this country. She talked to the New York Tribune about it. "I was amazed," she says, "to see your great mountains, your big houses and large people. I wonder that the gift of God can be so great; everything in this country is on such a large scale. The men and women, and even the horses, are so much larger than in my native land. In Japan everything is small. We traveled for miles and miles through the West without seeing even a house. It is not like that in Japan. We have not much waste land."

DON'T TALK ABOUT IT.

If you are not well, don't talk about it. To do so only exaggerates your consciousness of physical discomfort. Also it casts a shadow of gloom over other people. They grow hesitant about asking you how you feel. It gives them cold chills to be contin-

Our Cut-out Recipe.

Paste in Your Scrap-Book.

French Fried Onions.—French fried onions are more trouble to prepare than fried onions in "American style," but are not so greasy. Slice the onions, cover them with milk and let them stand for a few minutes; then dip them in flour and fry them in deep fat for eight minutes. Lift them out and drain off the grease by placing them on rough brown paper. Arrange them around the steak and garnish with parsley. The onions may be fried before the meat is broiled, and placed in the oven to keep hot. This will allow plenty of time for draining, and the cook will not have the burden of frying and broiling at the same time.

ally told that you are "not very well" or "not so well" or "about the same."

Probably you've said these things so often that you say them now as a matter of course. It seems incredible to you by now that you should ever feel really well, because you've unconsciously made a habit of being ill.

Do you know that a good deal of this is imagination? If you braced up and told people cheerfully that you felt lipo, nine chances in ten you would feel lipo pretty soon. You'd forget the ailing habit.

And after all, what great difference does it make to any but your nearest and dearest if you don't feel well? Suppose you are even hampered by downright physical ills? Your work must be done just the same. It can't be? What nonsense! Of course it can.

Consider the splendid people who have conquered desperate ills in order to get their work done. The woman who has something to do doesn't have time to complain of not feeling well. —Indianapolis News.

THOSE NEW HATS.

"It has reached Kansas City at last," exclaimed Mrs. Haviland at the dinner table when no one was really expecting her to say anything. "I saw in last week's fashion notes that they were quite a craze in the East, and 'pon my soul, they seem to have taken Kansas City by storm."

"What? Mosquitoes?" inquired Bobby, reaching for a hot biscuit.

"No, indeed," answered Mrs. Haviland, eagerly, "hats. Perfect dears, too! You see, they're only for young women—high school girls—but I just dote on them. They're too cute for anything. Why, in a downtown bookstore yesterday I saw five in as many minutes. They were brown, black, blue, gray, and best of all, a bright red."

"What do they call 'em?" asked Mr. Haviland, trying to appear interested.

"College hats. That's the proper name for them," explained Mrs. Haviland. "They're of a soft felt and are worn in the telescope shape that men's spring hats come in. The adorable thing about the hat is the fetching tilt given to the brim. To be strictly 'au fait' when wearing the college hat, I'm told the brim must be turned at an angle of forty-five degrees on the right side. You've no idea how pretty is the picture when a group of high school girls go tripping jauntily through Petticoat Lane, each wearing a college hat of bright red. Some I've noticed are tided with a bow of ribbon or perhaps a quill sticking straight up to increase the upturned effect."

"I believe I saw some of the college hats you speak of on the street

to-day," remarked Mr. Haviland. "Only the ones I saw were worn by boys. They were mostly blues, blacks and grays, turned up straight in front. I notice the boys are not devoting all their attention to the hats. Haven't you noticed the trousers? Wide in the legs with a generous roll on the bottom that leaves them flapping, at least four inches above the shoe tops. Talk about college hats? The college hat and the college trousers—they're a combination that can't be beat."—Kansas City Star.



Two-toned checks in gingham are again good this season.

Tucked yokes are not as popular as they were a season ago.

One of the latest tulle is a dainty fabric dotted in silver.

Dots and rings are much employed in the new foulard designs.

Among the new shades is petunia. It is a favorite for street wear.

In embroidered lines, the new jackets are flat and either single, double or triple.

Handsome lorgnette chains of gilt are set with pearls, the result being most effective.

Crystal and gold bugles are used for outlining designs in lace on many handsome gowns.

A favorite pattern in the silk mufflers is the polka dot. The dots are large and plentiful.

Champagne colored veils of very large and unusually becoming meshes are displayed in the shops.

Bands of chinchilla are used as trimming to some of the handsome evening scarfs of messaline.

Tiny pink satin roses, with rose leaves, too, are to be had in the shops for trimming evening gowns.

Pique and heavy mannish gloves are much in demand just now for street wear with tailored gowns.

Petticoats and princess slips are being made of the thinnest materials and without a pleat or gather.

Tiny rosettes of colored satin ribbon are set at intervals along the hem of a charming chiffon frock.

Stole and muff sets for dressy wear are edged with six or eight inch silk fringe, matching the fur in color.

A bandeau of silver or gold, set with baroque pearls, is among the most striking ornaments for the coiffure.

The turban fad shows indications of being overdone, and it is being eschewed by some of the careful dressers.

Tiger skin coats are being worn by some of the most daintily fashionable women of Paris. Many of the new dinner and evening gowns from Paris show chiffon tunic bordered with fur.



A very new model of a motor or travelling coat has the back fullness gathered into a broad band above the hem.

Trimming possibilities lie in the cape collar and in the full sleeve. Fancy buttons and contrasting colors may be used in the cape and cuffs.