

The Bee's Home Magazine Page

Chemistry in Peace

A Companion Article to "Chemistry in War," Recently Printed in This Column—The World's Best Known Writers on Medical Subjects

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

In nearly every form of manufacturing anywhere from two to five and even ten or fifteen different grades and kinds of raw materials have to be combined to strengthen one another and neutralize one another or blend with one another in such a way as to produce the required fabric or substance or machine.

To take a simple example, the different brands of flour are made by blending in various proportions the different numbers and grades and qualities of wheat. And as even a given grade of winter or spring wheat from the same region will vary greatly in different years, according to the weather and the season, it requires a great deal of skill and judgment and experience to combine these different wheats in such a way as to produce a particular standard of whiteness and good dough-making and gas-retention flavor, to say nothing of nutritive value.

Formerly, this delicate and extremely important work was done simply by rule of thumb by some expert of long experience, and often very successfully. Now the chemist comes on the scene, and analyzes the samples of the perfect finished flour (which, as may not be generally known, has been carefully tested by baking in test loaves in various temperatures and under various conditions, and put to the final "proof of the pudding," the eating, before it will be branded and sold under a certain honorable name), and analyzes it, finds out the percentage of gluten and gliadin, percentage of starch, of the various salts, of water, of the constituents which have to do with its absorption of water and holding of gas in bread-making, and in a short time hands to the practical miller a precise working formula in chemical terms for his famous product.

They the different wheats are taken as they are bought in the market or come into the mill and a like careful analysis is made of each one of these. One is deficient in gluten, but strong in starch. Another is deficient in certain salts. Another, again, has undergone certain changes in its envelope, which will be likely to give a bad color to the flour when combined with other brands.

The whole group is carefully analyzed and graded according to the amounts of the constituents desired in the final mixture which each contains. Then a prescription is written, such as such a per cent of No. 1 red winter, so much No. 1 spring, so much northern Manitoba, so much Oregon red, and the result is almost certain.

Of it if be, say, a paper mill, which desires to produce a given grade of wrapping paper, of a certain weight per yard, and a certain toughness as measured by the amount of pull (expressed in pounds) which it will resist before tearing. A sample of paper which fulfills these requirements is dissolved and analyzed. Then the different pulp, wood, straw, rag, hemp, are worked out, the qualities of each one placed upon a chemical basis, and again a prescription is written of the proportional mixture of each one of the two, three, five, which may be necessary, which will give the proper blend to produce the desired results.

Or, in a great metal manufacturing plant, an automobile factory, for instance, a particular part, say a bearing, requires a particular kind and quality of steel, not too hard and brittle, not too soft and grindable; or in a spring, where the problem is the highest degree of elasticity combined with the maximum of toughness.

Formerly some old and experienced workman combined certain iron ores, fused them in a certain way, heated them upon the forge hearth until they looked just about right, hammered until they gave out a certain ringing tone, and sometimes got an excellent result, sometimes a disastrous failure.

Today the chemist is called in, and by skillful mixing of other metals, nickel, vanadium, etc., the steel is given qualities which even the purest and finest iron could never be made to yield; and every step in the process, the precise number of degrees of heat to which it is

cooked, the numbered shower of blows which it is struck after it comes out, are registered accurately by the pyrometer and the automatic counter.

The automobile, in its later astonishing developments of durability, lightness and resisting power, is a triumph in the chemistry of steel. The filament of which of the incandescent electric light is another triumph in chemistry. The famous whip fifty times its own weight in wildcats, is or will be another.

A metal or element and a fluid which will act upon each other sufficiently to produce current and yet so slowly as to last for long periods without corrosion and be tough enough to be practically unbreakable, these are the elements of the problem.

There is not the slightest question that the extraordinary efficiency in waging and conducting war on an enormous scale shown by Germany has been largely due to the thorough and complete and masterly manner in which it has utilized to the utmost every branch and every power of modern science.

It began fifty years ago with the schools, which were carefully planned to

turn out as many thoroughly equipped, working chemists and physicists and electricians as possible. Instead of a horde of literary amateurs and dabblers in intellectual culture like our American and English schools; Germany has seen to it that every boy who showed any aptitude or ambition for a scientific career was provided with an opening for work and bread and butter until he could show what was in him.

If there was no immediate visible opening for the young technical school graduate, Germany either employed him as a docent or assistant teacher in some of its numerous schools and universities or else it quietly but firmly quartered him upon some manufacturing establishment which it thought was not showing a sufficient degree of scientific progressiveness.

Chemistry is not merely the basis of industry, the basis of modern life, but the basis of life itself, and no problem is solved until it is reduced to chemical terms. A frank recognition and adoption of this in our schemes of education and of industrial organization is the most urgent and wonderfully helpful step in sight at present.

Ghosts that Haunt Us

By BEATRICE FAIRFAX.

Too many of us are held by phantoms of our past. Too many of us sacrifice our lives to outworn ideals. Life is growth and unless we move with it we must make of our own existence a tragedy. "And the way to end dreams is to break them, stand, walk, go," said Robert Browning. In that line of poetry lies a wonderful sermon against yielding yourself to the illusions of your past.

Life is a short-riden thing for many people. I knew once a man who lived in his old homestead, a tumbledown, ramshackle place which could hardly yield him a living. His farm was not fertile and his talents did not lie in the direction of raising chickens or running a dairy or of making a good living off his ancestral acres. But he had a sentimental feeling for the old place, where his grandparents before him had lived, and for years he insisted on refusing all sorts of wonderful offers from a real estate company which wanted to build a park along the line of his place.

Then he fell in love with a girl and could not afford to marry. He let her youth go by while she sat waiting for him to make good. He was ghost-haunted, held by phantoms of the past. At last he was forced to give up the old place to a railroad which wanted the right-of-way. At the age of 40 he found himself in possession of \$10,000 and with absolutely no business training.

There was nothing to say that the dreamer he had proven himself to be should become a power in the world of men, and yet suddenly all the latent strength developed. Today at the age of 50 he is a happy husband and father and one of the "big men" of a large western city. But the girl who waited died before the ghosts that haunted him had been exorcised and his house of life had been made habitable.

Too many of us are hideously held by some tradition. It may be loyalty to a place; it may be an accustomed way of doing things; it may even be an attempt

to keep faith with an outworn love. We fancy ourselves fettered and shackled and the links that hold us are rusty and ready to fall apart at a touch.

It is a hideous thing that life should be handicapped by an outworn past. It is ghastly that one's future should be built on a tissue of lies. The only honest thing to do is to face the present—if it is marred by circumstances rising out of a past to which one has a sentimental desire to be loyal, the acid test of common sense must be brought to bear at once.

Progress demands that none of us live in a house of illusions. Who would light his house with candles because his grandfather had used tallow dips or read by the flickering light of gas when he can have steady burning or even electricity? None of us ruin our eyes as a matter of sentiment nor go out in the pouring rain without umbrellas because there was once a time when umbrellas were unknown. We take advantage of all the discoveries of a modern world of science.

Why not take advantage of every discovery you make about yourself and your own world? If you are tied to an outworn love, to an outworn method of doing things, to a place in life you find congenial, or even to a profession you were mistaken to take up, make a clean breast—and make it at once. Lay the ghosts of your past. They need not haunt your life if you have the courage to figure out what in honesty and fairness to the rest of the world, you want to do.

"To thine own self be true; thou canst not then be false to any man." In living today according to the standards of ten years ago you are utterly false to yourself as you are today, and it is with that self you must feel. You would not at twenty-eight insist on being a toddler or a vendor of peanuts because at eighteen those had looked like ideal occupations. Apply that principle all through your life, for the ghosts of your past will haunt you only if you sit weakly and impotently by and permit them to control your life.

Plume Trimmed Hats Return



Plume trimmed hats have returned and it would seem that they will continue to hold a popular place in the realm of smart millinery. After the seasons of severe wing, ornament and ribbon trimmings, this change is most agreeable. Then, too, the feather trimmed hat is so invariably becoming and distinctive that it is sure to be quite a feature. The colors vary, though usually there is a desire to effect a combination that will harmonize with a complete outfit. Illustrated is a roll brimmed velvet hat with deep crown, featuring a crushed ribbon band and two plumes. A smart jet buckle affords an interesting detail.

Hope

By JANE McLEAN.

A crimson rift that streaks the gray,
A deathless scent that still will stray
Athwart the years, the living strain
Of music heard through depths of pain.
A star abreast a stormy sky,
A smile where tears are scarcely dry,
And eyes that Grief has rendered blind,
Reflecting light unquenched and kind.
A word that lingers in the still,
The strength of never conquered will,
The joy that in Faith's own heart lies—
That Life is sweet and nothing dies.

The Marriage Bond

She Compares Socialistic Marriage and the Common-Law Marriage.

By ELLA WHEELER WILCOX.

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The Rev. Bouck White performed a socialistic wedding recently. It differed from other marriages only in substituting "White love lasts" for "Till death do us part." The Rev. Bouck White says very truly, "Where love is not, true love is not." But in making this change in the marriage ritual no reformation is being made in our domestic or social conditions. It will unquestionably result in greater license and more frequent separations.



There are living in the world today numerous happy couples who have passed over danger reefs in life's voyage and weathered great storms and come forth into calm seas. During their tempestuous times, had the socialistic tugboat been at hand one of them would no doubt have gone ashore and left the other to continue the voyage alone.

There are tides in love as there are in the ocean; there are times when the tide runs very low; there are certain shores where the tide goes out for miles, leaving bare sand dunes or mud flats; but the waves come back again and the tide runs high.

There are certain temperaments that are like these certain shores at the time of the going out of the tides; if they break their marriage ties they may live to realize their mistake at a later hour. They may live to know that love did not die, but it only receded for a time.

This new socialistic clause in the mar-

riage service seems to put the institution very much on the plane of the common-law marriage.

The common-law marriage requires no ceremony at all. The man and the woman live together and he calls her his wife, and so in the eyes of the common-law she becomes his wife. Either can leave the other at any time without the bother of the divorce court.

The socialistic marriage possesses little more dignity than this. It is likely to lead men and women into formal ties which they know will only facing the solemnity of a marriage, and so in the eyes of the common-law she becomes his wife. Either can leave the other at any time without the bother of the divorce court.

The socialistic marriage would dispense with them. Since an easy exit from a difficult situation was at hand why exercise the sterner virtues? Every married couple ought to think of love as a perennial, not as an annual plant. Perennials and annuals require different treatment in one's garden. Prepare the soil then for the perennial plants. Give them the right care, protect them through the hard winters and nourish and fertilize the ground where they grow.

It will make a more beautiful and satisfying garden than the planting of seeds in shallow soil each spring and the throwing away of the faded flower at the first touch of frost.

Advice to the Lovelorn

By BEATRICE FAIRFAX.

Be Patient with Her. Dear Miss Fairfax: I have been paying attention to a young lady for three years. We had an engagement at her home. When I called I was informed by her parents that she was out for the evening. I learned from an authentic source she was out with another man. Later I confronted her with it. She admitted auto-mobiling with a married man. We quarreled and parted. Since then she has been trying to effect a reconciliation. If I take her back do you think I could trust her again.

What the girl did was very wrong, particularly so if she deceived her parents as well as you, but do you feel that you have the right to judge her for one such blunder? Be patient with her and try to persuade her that she cannot afford to carry on an affair with a married man. Your loyalty may save her now, and if you desert her great harm may come to her.

The Boy Will Add to Your Happiness. Dear Miss Fairfax: I am a young man of 25, and have found that I am deeply in love with a young woman who is a stenographer in this city, and who reciprocates my love. I now occupy a position with a large electrical corporation, and my prospects for advancement seem excellent.

Now, dear Miss Fairfax, the only thing that would tend to mar our happiness is the fact that the woman is a widow with one boy, who is a very dear little fellow. I love the woman dearly, but I think the

boy might detract from our happiness. She assures me that this would make no difference. Will you kindly give me your advice in this matter? FRANK L.

There is no reason why the little lad you love should not be still dearer to you if he became your step-son. If you really care for his mother, marry her by all means, and try to give the boy the benefit of a father's love and compassion.

Don't Sacrifice Your Work. Dear Miss Fairfax: I am 19 and an actor. The girl to whom I have been attentive is determined to part with me if I do not give up my position. Now, Miss Fairfax, should I give up my livelihood and seek a new position because she is against it, or shall I give her up? Do you think I ought to leave her after she deliberately said that she would give me up if I did not give up this position? I. R. Z.

The stage is an honorable calling for which I have deep respect. Don't sacrifice your work for a stubborn and foolish girl's whim. Devote yourself to earnest effort in your profession. Try to make a great success, which training and endeavor will aid you to gain. See if you cannot put thoughts of love into the background until you are more mature. The girl you choose today may not be a companion for the man you are going to make of yourself.

Christmas is a real Christmas with a Victrola in the home.

Hundreds of Omahans have awaited the following two Victor Records, exquisitely rendered in string music—

"The Rosary," "Aloho Oe-Hawian"

Any dealer mentioned in this announcement would be pleased to demonstrate these and other new Victor Records on the Nov. list:

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Hear the Newest Records in Our Newly Remodeled Sound-Proof Demonstrating Rooms on the Main Floor.
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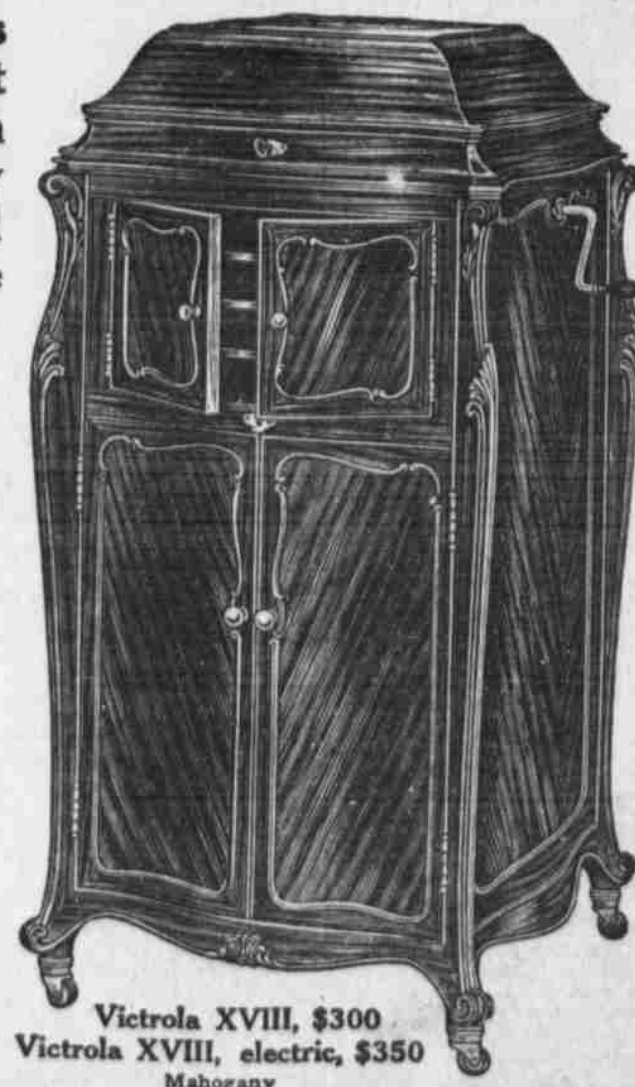


There are Victors and Victrolas in great variety of styles from \$10 to \$350, and any Victor dealer will gladly demonstrate them to you.

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Victrola XVIII, electric, \$350
Mahogany

In-Shoots

The man who listens to your story is never in the bore class.

A woman seldom takes pride in a man that no other woman wants.

Even the divorce court does not always uncover the matrimonial film-flamers.

None save the near-fool will spend much time answering the questions of a fool.

If man does not care to go to war he can sometimes exhibit bravery by marrying a grass widow.

Patriotism that enjoys powder smoke often cools at the sight of the trench pick and shovel.

The most dangerous woman of all is the one who can keep her tongue still while her eyes flash fire.

In the endeavor to start something many persons make the mistake of substituting talk for cold cash.

The candidates who are not elected are never called upon to worry about the promises of the press agent.

Good jobs always seem to seek the men who have jobs rather than the jobless.

The woman who really loves her husband can always discover any fault in the fit of his clothes.

It is better to let the average person worry over his own troubles. Your time will come soon enough.

Truth crushed to earth will rise again, but an old joke has a hard time coming back to the same audience.

Every best seller sooner or later reaches the cheap pamphlet form. And it is often the case with men of prominence.

The man who imagines that he is in on the ground floor of an investment frequently finds that he has been dumped into the cellar.