

# Latest Notes Of Science

## Researches Reveal New Automatic Control in Industrial Plants

Scientists have long known that heat kills magnetism, but why and how it kills it had been imperfectly understood until recently when the researches of Trygve D. Yensen, an East Pittsburgh engineer, supplied answers. The effective parts of any ferro-magnetic substance are spinning electrons, known to science as magnetons. Under the influence of a magnetic field these magnetons are orderly to a minute degree, all being oriented in the same direction. If the material is heated chaos is induced, depending on the material and the degree of heat so that the magnetons become confused and, by being disoriented, offset one another, and thus the effectiveness of the magnetic attraction is reduced.

This effect is much heightened if the ferro-magnetic substance is bombarded by intense heat, and the effectiveness may be intensified to a point where the magnetic influence is entirely negated. The application of this theory produces an excellent means of thermo-magnetic control, according to Dr. Yensen. Since iron, cobalt, nickel and their alloys can be made to lose their magnetic properties, it means that electric switches, furnaces, steam valves and similar equipment can be controlled by the thermal effect on any ferro-magnetic substance. Thus we have positive automatic control of the type that is increasingly being afforded by the photoelectric cell, but through the application of an entirely different principle.

### BIGGER ROLE FOR MAGNESIUM

The tremendous drop in the price of magnesium metal from \$5 to around 30 cents a pound in the last sixteen years—chiefly due to intensive research and successful manufacturing experiments—now indicates an increased importance for this metal, according to a paper presented before the American Chemical Society. Since magnesium is one of the most plentiful metals and is about one-third lighter than aluminum, having only 25 per cent. the weight of iron or steel, it becomes directly competitive with aluminum and thus a wide sphere of usefulness is indicated for it in the alloy field. Magnesium alloys are extremely strong and have a wide range of malleability.

### WOMEN INVENTORS INCREASE

A study of the patent records since 1869, when the first patent was granted to a woman, reveals that although women still apply in smaller numbers than men, there has been a steady increase in their applications. Some years ago, when the last detailed analysis was made, women were applying for patents at the rate of about 60 a year. No figures are available as to the number of applications in recent years, but it is known to have increased considerably, since recently a larger number of women have entered industrial life. As might be expected, the highest percentage of inventions of the number studied a few years ago confined themselves to domestic devices; but a great many were far afield into the realms of metallurgy and other higher technical fields.

### FOREST FIRE PLOW

A new machine has been adopted to aid in fighting forest fires, according to a recent announcement. It is nothing more than a powerful tractor with a wide plow fixed in front. The plow is used for constructing fire lines to prevent the spread of forest fires. It can make a furrow fifteen inches wide and will throw out the dirt sixteen inches on either side, making a fire line almost four feet wide. It will accomplish in one hour work that would keep ten men busy for a whole day.

### Canada's Radio Industry

According to recent statistics sales of receiving sets in 1930 valued at \$22,776,225. This value was nearly \$2,000,000 above the production of the industry in 1929, although the 1930 production figures were slightly below those of the previous year. Three years earlier, in 1927, production of the industry in Canada was valued at only \$8,789,171. Another measure of growth is supplied by the rapid rise in the number of receiving sets licensed in the Dominion. In 1923 the number of licenses for private receiving stations was 9,956, while in 1930 it was 424,146.

The figure given above for sales of radio receiving sets in Canada in 1930 is taken from a survey made by the Government for members of the Radio Manufacturers Association of Canada. Owing to the rapid expansion of the industry, the members of this association have requested that the service be extended and information collected on a quarterly basis. The sales value of \$22,776,225 quoted above is the value of 223,228 units. Of this total, 170,082 sets valued at \$18,196,934 were completely manufactured or assembled in Canada, while the inventory at the end of the year was reported at 25,852 sets.

### PATIENCE

How poor are they who have not patience! What wounds did great heal but by degrees.—Shakespeare.

# Electricity Man's Maid-of-All-Work

## Few Precautions Result in Efficient Performance

Electricity is still, in the minds of many people, a mysterious power, closely akin to black magic, writes Margaret Fleming in the N.Y. Herald-Tribune Magazine. Generally speaking, we are its masters and can make it perform unheard of labor, but once in a long while we use the wrong formula to invoke it, and the "whatever-it-is" runs amuck and often destroys its own evidence, and this makes it easy, whenever lacking of the cause of a fire is being investigated by concluding that electricity was somehow responsible.

Each year a small number of fatalities are caused in homes by ordinary lamp voltages. Careful surveys have shown that not more than sixteen to twenty persons a year meet their deaths in this way, and 95 per cent would still be alive if they had followed a few simple rules in the use of their electrical equipment.

These, briefly, are the electrical rules which every home owner should observe. Rule 1. Have your wiring done by a reliable expert.

Rule 2. In wiring your home, have plenty of outlets, not only for today's needs, but those which you anticipate tomorrow.

This will help a great deal to reduce the danger of fire or shock, since it will mean fewer wires trailing from one part of a room to another and consequently wearing them out, less amateur tinkering, and less possibility of overloading wires with more current than they were made to carry. Even in this electrical age the great majority of homes are inadequately wired for satisfactory electrical service. Many of them were built before electricity became an accepted household servant, and even homes erected in the last ten or fifteen years, have failed to anticipate the electrification of almost every imaginable household job. Especially is it important to have installed in the kitchen and laundry one or two high power circuits to be ready for any demands which the future may bring.

Rule 3. Play fair with your fuses. The fuse was designed, not to annoy, but to protect you, by automatically burning out and thus shutting off whenever more is being drawn through the wires than they can safely carry. This safety limit is indicated by the electrical company when it puts in fuses of a certain amperage. When one blows out, it means either that you are using too many lamps or appliances on that circuit, or that one or more is defective. To meet the difficulty by putting in a fuse of higher amperage, or, as some household devils have even been known to do, to substitute a penny for the fuse, is to invite trouble.

The average circuit in a private home calls for a fuse of fifteen amperes. The high power circuit which supplies the electric range carries more. In this connection it is well to remember that any electrical appliance supplying heat—such as a range or a heater—uses, generally speaking, more current than an appliance supplying power—such as a washer or refrigerator—or one designed to give light, such as a lamp.

Rule 4. Remember that water is a conductor of electricity, that all electrical connections should be protected from dampness, and that no part of any electrical equipment should be touched with damp hands.

An analysis of electrical shocks shows a high percentage resulting from failure to remember these facts. The strength of a current is in inverse proportion to the resistance of the medium through which it is passing. Normally the skin of the body has a fairly high resistance, and thus serves to shield the inside and thus serves to have a low resistance of the body, which, however, is wet. If the skin, however, is wet, or even damp from perspiration, it becomes an excellent conductor of electricity, and a shock which would otherwise be slight, may become otherwise. You should, therefore, be especially on your guard in all parts of the house where water or dampness is likely to be encountered, such as the bathroom, the laundry and the cellar. Of thirty-one fatal

### "THESE HARD TIMES"

"The hard times and scarcity of money makes it more important than ever to economize. One way I save on clothes is by renewing the color of faded or out-of-style dresses, coats, stockings, and underwear. For dyeing, or tinting, I always use Diamond Dyes. They are the most economical ones by far because they never fail to produce results that make you proud. Why, things look better than new when dyed with Diamond Dyes. They never spot, streak, or run. They go on smoothly and evenly, when in the hands of even a ten-year-old child. Another thing, Diamond Dyes never take the life out of cloth or leave it limp as some dyes do. They deserve to be called 'the world's finest dyes!'"

S.E.G., Quebec.

cases of electric shocks investigated in the United States by the National Safety Council, twelve occurred in bathtubs, and seven happened to persons who were standing on wet basement floors.

Of thirty-seven cases investigated by the National Electric Light Association, eleven were bathtub fatalities, and wet basement floors accounted for seven; extension cords under cellarless houses, where the householder rigged up a bulb at the end of a non-waterproof cord and crawled over the damp earth to investigate some problem or other, brought eight to their death. Three fatal cases which occurred last summer were in hot, muggy weather, when the skin of the victims was damp with perspiration.

All these facts mean that almost all electrical shocks resulting from dampness could be avoided if we would take a few more precautions. Rule 5. Never touch an electric appliance of any kind while you are in the bathtub. If it should chance to be defective the danger of shock is greatly increased.

Rule 6. Secure the use of molded composition or porcelain sockets in your bath-rooms, basements and all other damp locations and on extension cords.

Screw base receptacles or outlets are no longer approved. Where they exist equip them permanently with the detachable screw base sections of attachment plugs or have your electrician replace them. This will prevent inquisitive children from poking their fingers into the sockets and possibly receiving shocks.

Rule 7. Wherever an extension cord is used in any damp place see that the cord is one with waterproof protection.

Such cords have always been easily purchasable, and now the householder may avail himself of an extra protection, a rubber waterproof connection cap.

In handling the cord of any piece of electrical appliance, grasp and pull by the plug rather than by the cord itself. This is made easier for you in a type of heater cord and plug, now on the market and especially recommended for such things as irons and toasters. It has above the plug, which connects with the appliance, a new pull-grip which relieves the strain on the wiring itself.

Rule 8. Always disconnect, before leaving it, any electrical appliance which is in contact with inflammable material.

An electric heating pad is a great convenience, but do not take liberties with it. Heed the warning that comes with the pad itself and take care not to let it get wet, not to stick pins in it (pins are electrical conductors) and not to put it snugly over a wet poultice, on the ailing one's chest, as some trusting souls have been known to do!



"Is your husband fond of athletic sports?"  
"Why yes indeed, he just loves to sit in a shady grandstand and watch the players perspire."

### From Country to Town

"It's strange to me, who long have seen no face  
That was not like a book whose every page  
I knew by heart, a kindly commonplace—  
And faithful record of progressive age—  
To wander forth, and view an unknown race;  
Of all that I have been, to find no trace,  
Not footstep of my by-gone pilgrimage.  
Thousands I pass, and no one stays his pace  
To tell me that the day is fair, or rainy—  
Each one his object seeks with anxious chase,  
And I have not a common hope with any—  
Thus, like one drop of oil upon a food,  
In uncommunicating solitude—  
Single am I amid the countless many."  
—Hartley Coleridge, Poems.

### Advice to the Young

Bestow thy youth so that thou mayst have comfort to remember it when it hath forsaken thee, and not sigh and grieve at the account thereof. Whilst thou are young thou wilt think it will never have an end; but behold, the longest hath its ending, and that thou shalt enjoy it but once, that it never turns again; use it therefore as the spring-time, which soon departeth and wherein thou oughtest to plant and sow all provisions for a long and happy life.  
—Sir W. Raleigh.

# Queen of the Netherlands Reviews Troops



Showing Her Majesty Queen Wilhelmina Helena Pauline Maria reigning sovereign of the Netherlands as she leaves the parade grounds near Amsterdam after reviewing the recent army manoeuvres.

### Owl Laffs

Wife—"Dear, to-morrow is our tenth wedding anniversary. Shall I kill the turkey?"  
Hubby—"No, let him live. He didn't have anything to do with it."

Mistress—"Now, Matilda, I want you to show us what you can do to-night. We have a few very special friends coming for a musical evening."

Maid—"Well, ma'am, I ain't done no singin', to speak of for years, but if you-all insists upon it, you can put me down for 'The Holy City'."

It's a simple thing to get too sick to work and still feel just well enough to go fishing. All salesmen are Scotch when they're payin' their own expenses. A real estate agent was denied entrance to Heaven the other day; St. Peter didn't want the place subdivided. She was just the landlady's daughter, but everyone wanted to know how the land lay. Uneasy lies the face that wears a frown. After careful observation we report that two may possibly live as cheaply as one, but not as quietly.

Teacher—"What cow is best known for the amount of milk it gives?"  
Johnny—"Magnesia."  
Teacher—"Magnesia?"  
Johnny—"Yessum, all the drug stores sell milk of magnesia."

The hardest thing for a wife to forgive a husband is having him call the evening meal "supper" if the company present is snobbish. Then there's the

sap who wanted to weed the garden, but couldn't distinguish between the weeds and plants, so he turned the chickens loose and pulled up what was left. Man does not understand woman. That is his tragedy. Woman understands man. That is also his tragedy. The modern woman's idea of showing backbone is to have no waist in the rear of her evening gown. Men are of two classes—those who do their best work to-day and forget about it, and those who promise to do their best to-morrow and forget about it. Most people you meet know there is something wrong with the country, but very few of them even think they know how to right it.

Fond Father—"Wasn't that nice? You like having a ride on father's knee, eh?"  
Small Son—"Not bad, but I'd rather ride on a real donkey."

Miss Cutey Funnyface, of Brushville, says that anybody easily discouraged has no business opening a beauty parlor.

First Mountaineer—"Wal, I see where Jake's wife had another datter."  
Second Mountaineer—"Yes, that makes six. Reckon he'll have 't get a double-barrel if he wants 't get 'em all married."

Carl—"Do you believe in the old adage about marrying in haste and repenting at leisure?"  
Jake—"No, I don't. After a man marries he has no leisure."

A good loser is one who feels like you would have felt had you won. Very few big jobs are held by men who hook and hook in a traffic jam. The modern girl isn't affected by the movies. They go in one eye and out the other. A man never knows what a woman thinks of him; he only thinks he does.

### Seaplane to Be Used On Jungle Journey

When Commander G. M. Dyott takes off in another month or so to explore the Brazilian jungles in the Malta Grasso region to the north of the Xingu River he will not only be returning to familiar ground, where he sought three years ago to find some trace of Colonel P. H. Fawcett, who was lost there with two companions in 1925, but he will be returning to a mode of travel in which he was among the pioneers, the airplane. He will take a Bellanca seaplane which will cut laborious canoe trips of weeks to days and make it possible to fix his base at Alta Mira on the lower Xingu, 670 miles from the confluence of that river with the Amazon.  
Eleven men are expected to comprise the exploring party which he is now organizing at his headquarters in New York. Those already definitely selected, in addition to himself, are Captain Erskine Loch, a British veteran of the World War; George Rommell, now attached to the Pan American Airways in Cuba, who will pilot the plane, and Robert Cutler. Complete radio and motion picture equipment will be included in the baggage and plenty of knives and axes for trading purposes with the Indians. Commander Dyott hopes not only to find more definite traces of Colonel Fawcett but to make ethnological and geographical discoveries of importance in the region. Legends of an unknown tribe of Indians living in stone houses are strongly current there. The party will make the journey from New York and up the Amazon in a yacht.

# I Shall Walk Today

By Grace Noll Crowell, in "Scribners." I shall walk to-day upon a high green hill,  
I shall forget the walls and the roofs of the town;  
This burden, strapped to my back, shall be unloosed,  
And I shall leave it there when I come down.

Warm is the hill upon which I shall walk to-day;  
Gold is the sun upon the close-cropped grass,  
And something of the peace of grazing sheep  
Shall permeate my being as I pass:

Something of the look within their eyes  
Of upland pastures, and of clean wind blown—  
The tranquil, trusting look of those who know  
And shepherd watches, I shall make my own.

And I shall gather the little wind flowers there,  
And press their sweetness upon my heart to stay,  
Then I shall go back to the walls and the roofs of the town,  
Stronger than I have been for many a day.

### Patriotism and the Depression

Mail and Empire (Toronto)—Ever since the war the Duke of Connaught has spent his Winters at his villa at Cape Ferrat, on the French Riviera. This year, though 81 years old, and not robust, he will remain at home in England as an example to others. In thus emulating the example of the King, who recently gave up a portion of his income because of the national crisis, Canada's former royal governor-general sets a standard of citizenship which, if followed in this country, will this year diminish the size of the Canadian colonies in Florida and California.

### The World

The world, which took but six days to make, is like to take six thousand to make out.—Sir Thomas Browne.

Fortune is not on the side of the faint-hearted.—Sophocles.



**BABY'S OWN SOAP**  
It's Best for You and Baby too

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Use Dr. Carter's famous Little Liver Pills. Entirely Vegetable. Gentle but effective. No bad after effects. For 60 years they have given quick relief from Biliousness, Sick Headaches, Indigestion, Acidity, Bad Complexions.  
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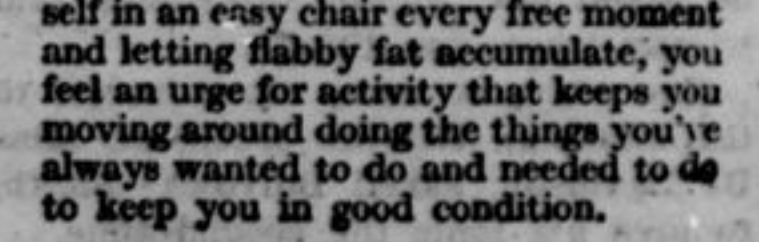
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Take half a teaspoonful of Minard's Liniment in a Hot Mixture, inhale it. Also rub it well into your chest.  
You'll get relief!



**LOST 30 lbs. FAT IN 3 MONTHS**  
AT THE AGE OF 40  
"I was very stout, and I have taken Kruschen Salts for 3 months, and have reduced from 212 lbs. to 182 lbs. (age 40). I am a hearty eater, and have never dieted in any way. Also I have never felt any ill effects whilst I have been taking Kruschen salts."—T. H. That is an instance of Kruschen succeeding without assistance. But if any fat person will be satisfied with a moderate diet, and will take one half teaspoon of Kruschen Salts in a glass of hot water before breakfast every morning—they can lose fat in just the same way.  
This is what Kruschen Salts does—it cleans out the impurities in your blood by keeping the bowels, kidneys and liver in splendid working shape, and fills you with a vigor and tireless energy you'd almost forgotten had existed—you get the needed exercise.  
As a result, instead of planting yourself in an easy chair every free moment and letting flabby fat accumulate, you feel an urge for activity that keeps you moving around doing the things you've always wanted to do and needed to do to keep you in good condition.

### She Dances on "Bad Days" too

SHE never watches the calendar... never has to "break" a date. She dances... and enjoys it.  
The modern girl has learned how to ease those "trying times". A few days before... you'll find her taking Lydia E. Pinkham's Vegetable Compound.  
Gone are those headaches... those backaches... those morbid, stay-at-home blues!  
Won't you buy a box of the new tablets? They're so easy to take... and you'll feel so much better.



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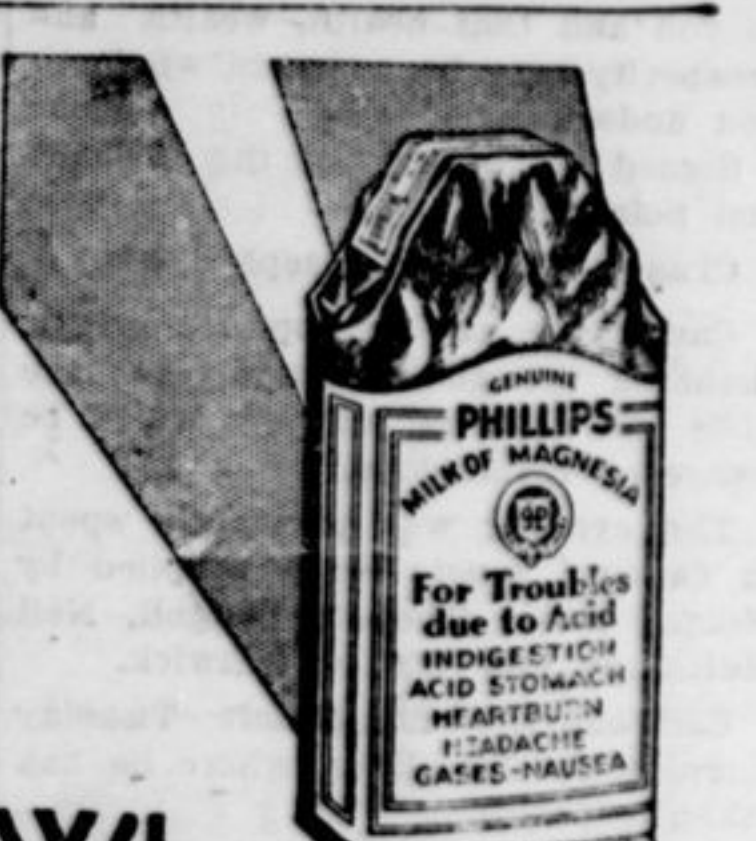
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"I have always looked upon industry as an art."—Charles M. Schwab.

## Stubborn Colds are Dangerous

Take  
**SCOTT'S EMULSION**  
of Norwegian Cod Liver Oil  
To Build Resistance  
Easy to Digest



# When PAIN Comes

WHAT many people call indigestion very often means excess acid in the stomach. It irritates nerves, has been over-eating, and food sours. The curative is an alkali, which neutralizes the acids instantly. And the best alkali known to medical science is Phillips' Milk of Magnesia.

One spoonful of this harmless, tasteless alkali in water neutralizes instantly many times that much acid, and the symptoms disappear at once. You will never use crude methods when once you learn the efficiency of this. Go get a small bottle to try.  
Be sure to get the genuine Phillips' Milk of Magnesia prescribed by physicians for 50 years in correcting excess acids. 50c a bottle—any drug store. (Made in Canada.)

Keep on your Feet  
4 MORE ACTIVE DAYS



# She Dances on "Bad Days" too

SHE never watches the calendar... never has to "break" a date. She dances... and enjoys it.  
The modern girl has learned how to ease those "trying times". A few days before... you'll find her taking Lydia E. Pinkham's Vegetable Compound.  
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