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A FOUR-YEAR PROGRAM FOR PHILADELPHIA
Things which the people expect the new administration to concentrate its attention:
The Delaware river bridge.
A dredging big enough to accommodate the largest ships...

DEMOCRATIC LESE MAJESTE
CHAIRMAN WHITE, of the Democratic national committee, is due for a bad fall hour when next he visits Dayton.

WHY WORRY, LADIES?
MEMBERS of the Republican women's committee of Pennsylvania will, of course, have no real concern as to the certificate of authority their organization has from the Republican national committee.

AT THE P. R. T. PICNIC
MAN does not live by bread alone, and a knowledge of this truth is not least of Mr. Mitten's contributions to the P. R. T. The trolley men's picnic was an unusual affair in many ways.

VAIN THREATS
IF threats made at a recent local political "banquet" are realized, Senator Vare will just sit back in his chair and wait for the Republican Alliance leaders to ask the Legislature to pull the teeth out of the civil service provisions of the new city charter.

WHOLESALE TREATY SMASHING
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must be given tomorrow. Such a wholesale nullifying of trade agreements is a novelty in America's foreign relations, and there are intimations that perhaps Congress did not actually intend the taking of such a radical step. If this is true, reflection has come rather late.

LOGIC OF EVENTS WILL FORCE US INTO THE LEAGUE
Senator Harding's Cautious Program is Becoming Visible Through the Dust of Political Conflict

IN CONSIDERING the part which the United States is ultimately to play in world affairs, one should remember that the discussion of the subject in and out of Congress for the past eighteen months has been colored by the approach of a presidential election.

IT is the curse of partisan politics that it leads otherwise intelligent and fair-minded men to denounce everything that the opposition does and to commend everything done by their own party. It becomes exceedingly difficult for the voter interested in results to find his way in the thicket of half truths and unfair statements which surround him, especially during the heat of a presidential campaign.

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YORK Herald, a newspaper which has always been close to Mr. Root, announced on Tuesday that the former Secretary of State while in Europe had "acquired plenty of information showing that the belief of European statesmen now is that the covenant of the league is really a device to do for the purpose for which it was framed is concerned and that it must be radically changed if the league idea is to live."

QUALIFY TODAY FOR VOTING!
IT IS estimated that between 200,000 and 300,000 women of Philadelphia are entitled to register today in the division polling places. The measure in which this opportunity to enroll as prospective voters is emphasized will furnish an interesting record of feminine interest in the ballot.

INDUSTRIAL KULTUR
THE unceremonious walkout of miners in the anthracite field, new threats of a serious railway strike, the unrest among street-car men and dockworkers in New York has done little to protest against anything from the seat of the color of the boss' hair, and the complacency with which some corporations appear to view the prospect of new tie-ups are particularly significant now.

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THE LIGHT THAT LIES

That it, it Lies About the Candlepower That Makes It and Uses Things Called British Thermal Units Instead

NOBODY has made any violent objection either here or in New Jersey to the substitution of a British thermal unit standard for gas instead of the old candlepower standard. The propositions in both places have gone through without a murmur and the papers have given considerable space to the change, so, apparently, everybody is satisfied. But, before the "What Do-You-Know" editor thinks of it, it is as well to spring three questions here. They are:

First. What is a candlepower and how is it measured?

Second. What is a British thermal unit and how do you recognize it when you see it?

Third. What is the reason a mantle gives a brighter light with poorer gas than a bare flame burner with good gas?

Probably not one man in a hundred of all who live in Philadelphia are aware of the changed systems can answer any one of these questions. Yet, without a knowledge of all three, how can we decide whether we favor the standard or not?

Under the old standard the contract between the U. G. I. and the city called for gas that would give a twenty-two candlepower flame in the open burner with gas flowing at five cubic feet per hour. Under the new the company is permitted to substitute a gas lower in illuminating power, but sufficiently high in British thermal units to give the twenty-two power with a mantle.

First, then, as to what a candlepower is. The standard candle used by illuminating engineers the world over is supposed to be made of pure spermaceti, to weigh one-sixth of a pound and to burn at such a rate that 120 grains of the sperm oil shall be consumed each hour. These are all arbitrary measures, of course, and they have been agreed upon by scientists and the light given by such a candle is the standard candlepower of today.

But, you say, you use the old sperm oil candle. In measuring electric lights, special electric lights accurately compared with this candlepower are used. Here in Philadelphia, the brightness of the gas is measured by comparison with a candlepower lamp burning vaporized pentane, a product of petroleum.

IT IS a simple enough problem to determine the candlepower of any doubtful light. Everybody knows that if you put a spot of grease in the center of a piece of paper and burn it, the light from the spot will be brighter than the rest of the paper; it seems to permit the light to shine through it. If, on the other hand, you put the paper on the same side of the light the grease spot looks darker than the paper.

So we take our standard light and put it up, set the paper with the grease spot any known distance from it and, on the other side of the paper, set up the light to be tested. We watch the grease spot and move the lights until grease spot and paper look just alike. This proves that the amount of light falling on one side is exactly equal to the amount falling on the other.

Now, in scientific jargon, the intensities of these lights vary with the square of their distance from the object. In other words, if the doubtful light in the experiment is twice as far away from the paper as the standard light, its brilliance is two hundred times that of the standard light. So, if it is three times as far away when the grease spot disappears, its brilliance is three times three, or nine times that of the standard.

HENCE in Philadelphia the Bureau of Gas has two stations for making constant tests of the gas supplied to the city. Under the direction of Dr. Wiley Thomas, chief of the bureau, a staff of experts makes regular readings of this instrument, which is known as a Bunsen photometer in physical laboratories.

The substitution of British thermal units, however, calls into play another instrument known as a calorimeter (with the accent on the "rim") by the way. Now a British thermal unit—known among engineers as a B. T. U.—is the amount of heat required to raise one pound of water one degree Fahrenheit. So, if we have an inch of water, the weight of which is one pound, the rise in its temperature and the amount of gas burned to make that rise, it is an easy matter to calculate the number of B. T. U.'s there are in that amount of gas.

These measurements are made by the instrument used in the testing stations here, one station being situated at Seventeenth and Locust streets, and another at Richmond and Ann streets. These locations were chosen because each is just about a mile from the gas works which supplies it and therefore gets the average city gas.

SO WE come to the mantle and the question of what makes it burn so brightly. Oddly enough, the first thing that is done with a mantle attachment is to take all of the heat out of the gas before it gets to the mantle. This is done by passing the gas through a water jacket. This sounds like a paradox, but it is really merely changing the form of the energy that is in the gas and making it do other things.

Every mantle is mounted on a little tube contrivance that is a miniature Bunsen burner. This tube has air holes in it and its object is to mix air with the gas so as to get the maximum combustion and to obtain the maximum amount of heat. It works on much the same principle as the carburetor on a flapper, which is simply an apparatus for obtaining the correctly proportioned mixture of air and gasoline vapor.

The mixture in the Bunsen burner burns with a blue, or almost invisible, flame much like the flame of a gas stove. The flame has a hole in the legs of his overalls with this because he could not see the flame.

So the Bunsen burner gives us an interesting hot flame to start with, but that is, in fact, which contains the maximum number of B. T. U.'s.

SCIENTISTS have discovered that there are certain substances which, when heated to incandescence, will emit a brilliant white light, and some of these substances will do this at a comparatively low temperature. One of these substances is calcium oxalate. This is the substance in the mantle of the Bunsen burner.

The blue flame from the Bunsen tube raises the meshes of the mantle to this white incandescence, and they give off this brilliant illumination, and it does not matter what the gas is made of so long as the required amount of heat is obtained. In this way the purpose of the gas is only to heat the mantle and the substances in the mantle do the lighting.

In the making of these mantles the greatest ingenuity has been shown, and they are a triumph of the imagination and cleverness of scientists.

First, the mantle is woven of plain cotton fabric. This is soaked in hydrochloric acid to remove all mineral elements, and it is then immersed in a solution of two chemicals known as the nitrates of thorium and cerium.

When this is dried these substances remain in the pores of the mesh in an infinite number of crystals. Any time the mantle is heated the vegetable fiber is totally destroyed and there is left behind a mantle made of meshes of these crystals. It is so crystalline that it glows with white light when burned over the Bunsen flame.

Such a mantle is, as everybody knows, extremely delicate and liable to breakage at the slightest jarring shock. Most people who have used them wonder how they are shipped without destruction.

Here, again, ingenious science has solved the problem. The mantle is dipped in a lard solution, which makes the crystal elastic enough to stand the jars of shipping, and the first application of heat removes the lard and leaves the mantle in its original condition. That is why you must burn a mantle with a match and let the flame go out before lighting it for use.



NOW MY IDEA IS THIS!
Daily Talks With Thinking Philadelphians on Subjects They Know Best

THE REV. H. GREGG McHENRY
On Sociological Effect of Recent Laws
THAT the adoption of the eighteenth and nineteenth amendments forms the most important legislation ever adopted in this country is the opinion of the Rev. H. Gregg McHenry, sociological expert and superintendent of the Protestant Episcopal City Mission.

"I consider that the legislation enacted in the last three or four years is far more important and far reaching in its effect than any legislation put through in the last hundred years," said Doctor McHenry, who has been engaged in social service work in this city for the last thirty years.

"In their effect on the social life and condition of the people, the two amendments go hand in hand. The one supplements the other. The adoption of the eighteenth amendment made possible substantial gains for social betterment. The nineteenth amendment in force will not only crystallize this gain, but will almost beyond doubt result in the eventual abolition of other great sociological evils such as the sex problem and the drug menace.

"In the short time in which the eighteenth amendment has been in force there has not been a full opportunity to study and record the extent of reform which it has accomplished, but enough has happened to show conclusively that it has been a magnificent move for social betterment.

"While you cannot measure the social conditions of all the people by your observations, one class, you the classes with which our social investigators come in contact are sufficiently numerous and representative to show the general trend of changes one way or the other.

"Among social service organizations in this city the amount of work due to social conditions has been reduced 75 per cent since the eighteenth amendment went into effect. Part of this is accounted for by the fact that business conditions have been brisk, and the conditions exist, social service work is comparatively dull. But even taking this into account, I can say without hesitancy that the need for help from social service organizations among the poorer class has decreased by considerably more than 50 per cent.

Decrease in Drunkenness
"As a concrete illustration of the decrease in drunkenness apparent to us, I might compare our experiences of a year or so ago with the present time. Before the prohibition amendment went into effect, on an average of twelve calls a day from persons under the influence of liquor.

"During the month of August we had but two such visitors. One of the two I happen to know personally has since given up the use of alcoholic liquors. The other man, who was a business man of some standing and who consequently did not need our help, merely called to announce that he was drunk, evidently with the idea of impressing us with the fact that he could still get liquor when he wanted it.

"Investigations over a period of years showed beyond a doubt that the use of liquor had been a major cause of poverty, disease and immorality among those whom I encountered in my work was due to the use of alcoholic liquor.

"It might surprise you to know that the great majority of malignant or incurable diseases which we attempted to combat among the people whom we met, such as tuberculosis and cancer, were directly traceable to the use of alcoholic drinks. And it might be equally enlightening to know that the decrease in these diseases since that time has been little less than astonishing. Not only that, but the people whom we get so afflicted are not in so serious a condition as before.

"The effect on living conditions and poverty has been just as great. Even though there is great opportunity for employment, the good effects of the new condition can be directly paralleled.

"Thus, in a number of houses which I visited before the enforcement of the amendment living conditions were deplorable. The houses were in a filthy condition, the children unkempt and in ill health, the houses miserably furnished, and what fur-

SHORT CUTS
Perpetual weather reports for Belton.
Dollars and doughnuts are very nearly synonymous nowadays.

The Cox "boodle" accusations seem to have been charged with "dis."

Every embezzler is a gambler, and the inevitable first stake is his self-respect.

The Pennsylvania Railroad wants to work at its Altoona shops as well as its own work.

In the matter of ratification Tennessee seems to have put Germany quite in the shade.

Southpaw motorists will wish they weren't if Superintendent Mills carries on his threats.

There is to be more Rowe and let us hope less row in our dealing with Latin America hereafter.

Will it be a case of brave men and Van women if the late Councilman Finley's seat and any other vacancies are filled by members of the opposite sex?

The women who have been barred from becoming registrars because of lack of experience are entitled to wonder how they are ever going to acquire it without a start.

If you were to ask the dodgers in the Tennessee legislature why they change their minds about woman suffrage, they probably would tell you that women have a habit of changing their minds.

The fundamental difference of opinion between political parties is changed. Somehow or other this is intimately connected with a divergence of views on the identity of the victor or the vanquished.

That woman who said she was going to vote for Harding because she had always believed in a republican form of government is likely to be matched by another woman who will announce that she intends to support Cox because she always favored democracy as opposed to autocracy.

What Do You Know?
QUIZ
1. What is the total membership of the national House of Representatives?
2. On what famous river was ancient Babylon located?
3. What is the easternmost state from which any President of the United States has ever been elected?
4. What were the names of the Siamese twins?
5. What is the real name of "Babe" Ruth?
6. What is alabaster?
7. Who was the wife of Zeus in Greek mythology?
8. Why is guinea pig an incorrect name for the little animal so called?
9. In what mountains was Rip Van Winkle said to have slept for twenty years?
10. What is a votive offering?

Answers to Yesterday's Quiz
1. A casting vote is one that decides between two equal voting powers.
2. Carolus Linnaeus or Karl von Linné was the noted Swedish botanist and scientist, founder of the artificial system of botany. He was born in 1707 and died in 1778.
3. M. H. Bleriot was the first aviator to fly over the English Channel. As he had an airplane manufacturing concern in France, he has just been elected to the French Government for proffering during the war.
4. The Orloff diamond, one of the celebrated jewels of the world, was among the Imperial Russian crown jewels. It was stolen by the eye of a Brahmin idol in the eighteenth century and after several other thefts passed into the possession of the Empress Catherine II.
5. Will originally meant writing or knowledge. Mustapha Kemal is the brilliant leader of the Turkish Nationalists, with headquarters in Ankara.
6. King George III of England became insane.
7. The Bactrian camel has two humps. The Javanian camel has one in the southern part of "Pennyanna" and is known as the Sumatran camel.
8. A mule is a cross between a male donkey and a female horse.
9. A quagga is a sub-species of the zebra, which was hunted to extinction in 1883.
10. A squeegee is a rubber-edged implement for sweeping a wet deck or roadway. It also similar instrument is called used in photography.

TAORMINA

THE sky is a painted sky. The sunlight slips So carelessly through almond blossoms. Pan, A murching goat, smiles placidly at man. Dramatically down, the high cliff dips. To where, enchanted, loved by Attis shepherds, Haunted by gods since ever gods began, Kisses the More with indolent white lips. Flowers on the walls, soft perfume in the air, Maidens with jugs set on their suburban hill— That is the village. Yonder your eyes meet The line of Acta flowing up to the sky, And turn back, dazed with beauty, to the street, Where peasants' little palated carts go by. —C. C. Washburn, in the Freeman.