

## EXPLAINS RECENT EXPLOSIONS BY AFFINITY THEORY

Dr. Villejean, French Expert, Believes in Detonation by Influence.

(Special Dispatch.)

PARIS, Saturday.

Dr. Villejean, inspector of the Explosives Department of the Seine Prefecture, who was a pupil of the great chemist Berthelot, was interviewed recently by your correspondent concerning the origin of the explosions which since the war have spread death and destruction in the rear of the armies of all the belligerents. Dr. Villejean appears to have a very plausible theory, namely, that the stupendous forces bottled up, so to speak, in the receptacles made for them by modern hands exercise a mutual attraction, the vehicle of which is the "emanation from the substances employed." In the case of the Halifax disaster there was another, more deadly, more effective and more dangerous medium—petrol.

"I do not believe in spontaneous explosion. During my scientific career I have never met one authenticated case. But I do believe in detonation or explosion brought about by influence." This remark was made by Dr. Villejean when asked for his opinion on the frequent explosions that have occurred in munitions and chemical factories in America, France, England, Germany and Austria, as well as in the formidable explosion of the munitions ship that wrecked Halifax.

### Explosion by Shock.

"Most high explosives are detonated by shock," said Dr. Villejean. "The shock of collision between the two steamships in Halifax Harbor was not the cause of the explosion, as that occurred twenty-five minutes later. The petrol that was carried on deck appears, however, to have been a contributory cause. It is probable that among the cargo of high explosive shells there was also a certain amount of 'amorce' or percussion material; this being the case, when the petrol caught fire some of it filtered into the holds and the heat dissipated produced a gas, which combining with the oxygen of the atmosphere exploded with sufficient violence to detonate the percussion material, which in turn detonated the rest of the cargo of munitions. I put this forward as a hypothesis, for to reach a more exact opinion it would be necessary to have a detailed description of the ingredients of the explosives used in the manufacture of the munitions in question. One conclusion may safely be drawn; that is, that it is most imprudent to carry any inflammable liquid on munitions ships. It is true that under other circumstances the petrol could have caught fire and no explosion have followed. But as it is impossible to foresee circumstances too many precautions cannot be taken where explosives—and such explosives as are now employed—are concerned."

### The Scope of Knowledge.

"Have you any hypothesis to advance, Dr. Villejean, to account for the explosions that have occurred in so many munitions and chemical factories within the last two years? Do you think the chemists are combining different products, the effects of which are clearly known up to a certain point, but that beyond this their knowledge may still be deficient?"

"No, I do not think so. I believe the greatest care is taken in the development of these explosives. Every step is tried and tested before another is taken, as well as every precaution that certain ingredients are not brought into close proximity. But what does happen, I fear, is imprudence—a momentary imprudence, if you will, but one which is often attended with disastrous results."

"The destruction of the great German chemical factory at Griesheim could easily have been brought about by the imprudence of a member of the staff in bringing two substances into too close proximity, causing a local explosion which could be sufficiently intense to detonate all the other explosives in the place by influence."

### Another Theory.

"There is also another hypothesis that is worthy of consideration and study by experts—that is, the action of 'les ondes électriques' or emanations from substances employed in the manufacture of explosives. Such action might also be the cause of local explosions—under certain conditions—which might or might not be the influencing cause of others of a more serious nature. That many of the explosions during the last two or three years were due to malevolence is certain. There have been others, however, in which malevolence had no part, but where imprudence was the contributory cause of detonation by sympathy—detonation by influence." To guard against this latest danger too much care cannot be exercised."

## Japanese Ships for World Trade

In order to compete for the world's trade at the war Japan is actively engaged in building ships. According to Japanese newspapers, she now has 113 shipbuilding ships, owned by forty-two different shipbuilding firms. In each a ship of 1,000 tons can be built. Sixty-seven ships have been completed and nineteen now are in course of construction. It is estimated that within a short time Japan will have three times as many ships as she owned before the war.

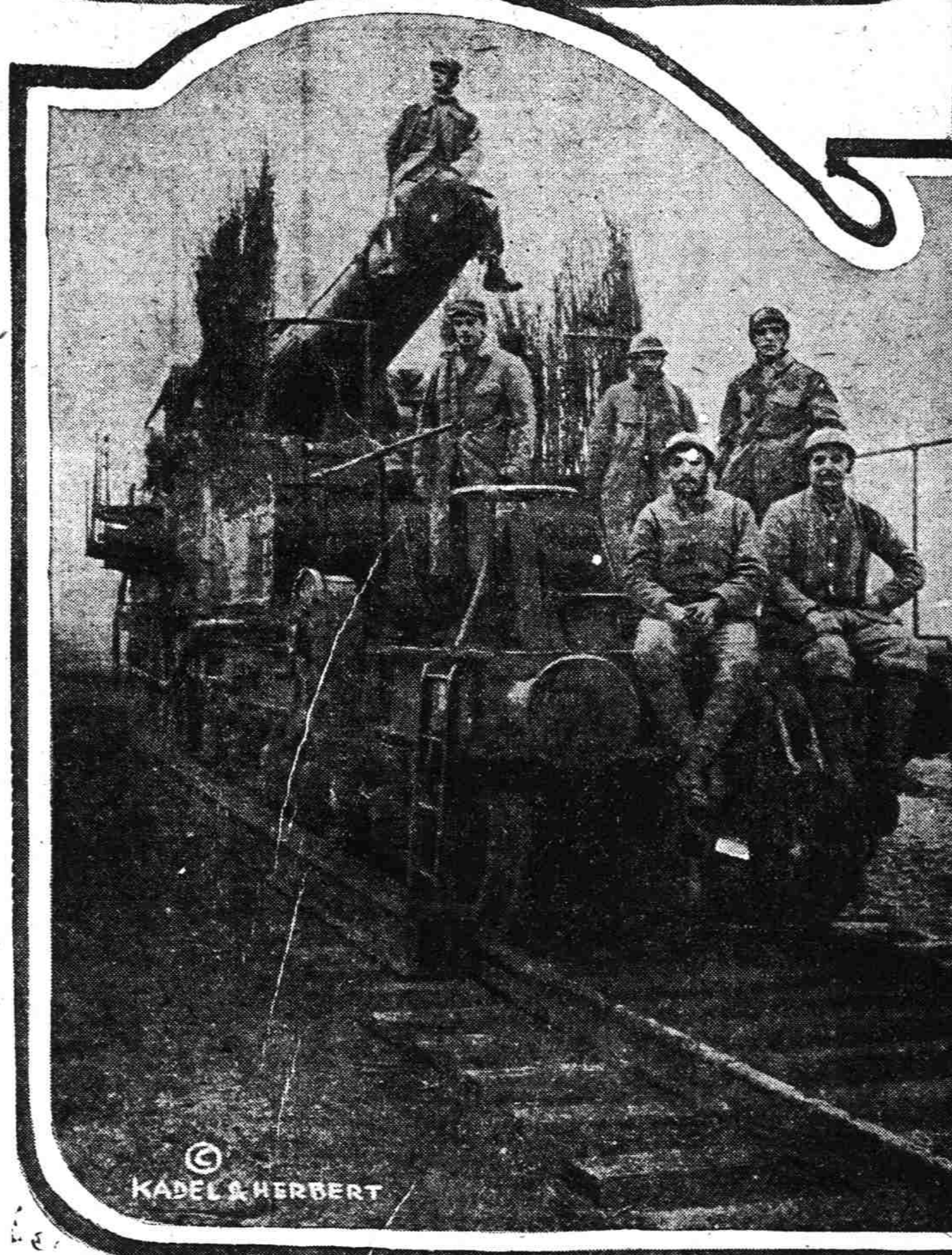
The Japanese Steamship Company, Japan's largest maritime corporation, which now has 102 vessels, aggregating 440,000 tons, has increased its capital to \$50,000,000, which is \$23,000,000 more than three years ago. Fifty large steamships will be built without delay, adding 400,000 more tonnage to the fleet. This is to prepare for trade after the war.

Direct service between Japan and Germany by way of Italy is suggested as a possibility after peace is declared. Furthermore, the company has decided to cancel the line operating to Europe by the Cape of Good Hope and to start a new service to Europe through the Panama Canal.

The first steamship in this new route, the Tatsuno Maru, already has started on the voyage. The ships will stop at San Francisco or some other American port on the Pacific coast for coal. They will take cargo and passengers direct to an English port. The steamships may call at New York for further loading before starting across the Atlantic.

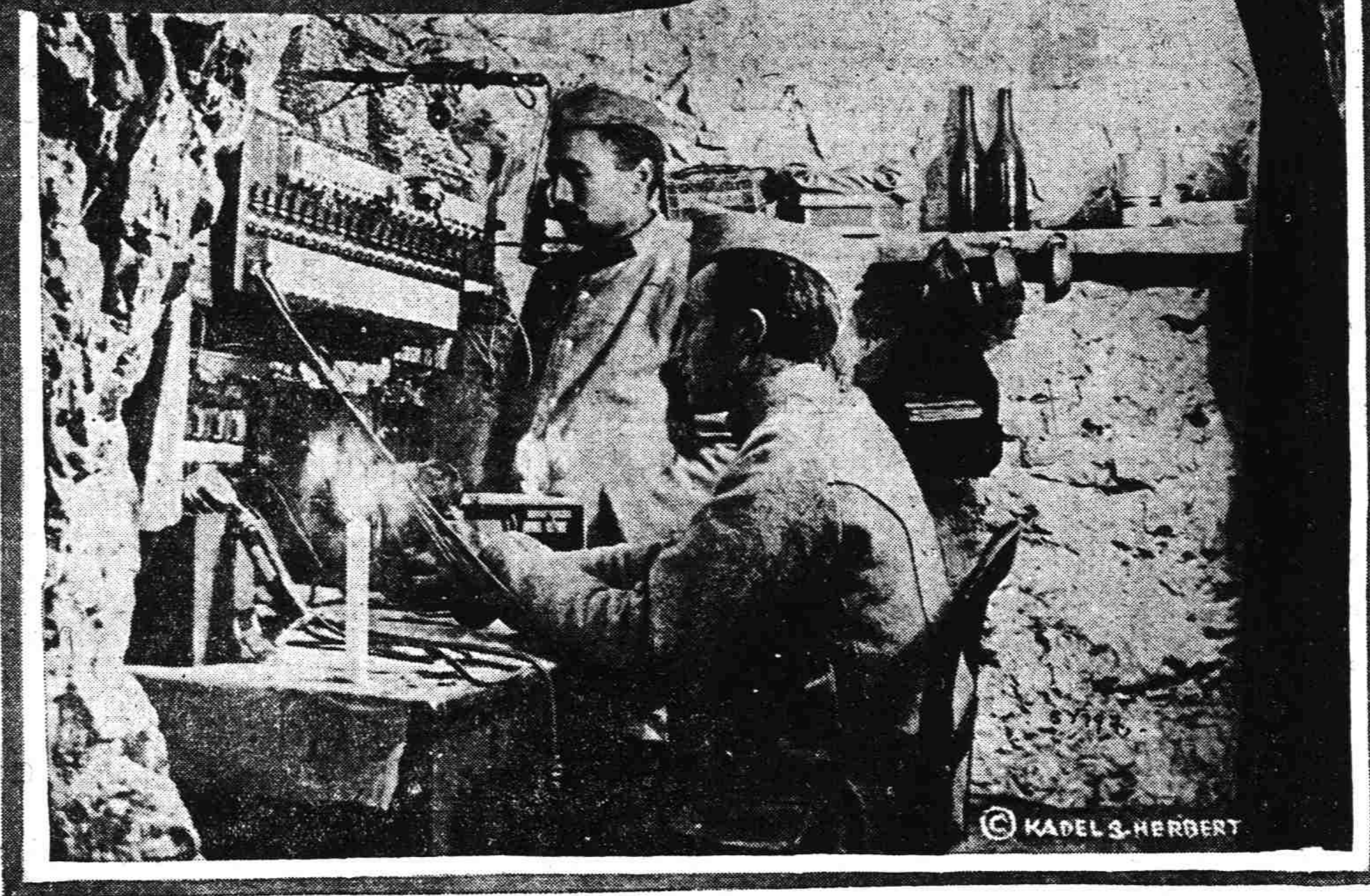
The line through the Panama Canal will be operated during the coming year and will bring New York into direct steamship connection with Japan.

## BITS of WAR



ABOVE is a long range French gun on a railroad-car which carries its camouflage right with it. Guns thus mounted are stationed at many points of the western front and can be shifted rapidly wherever rails are laid.

The picture at the right was taken seventy feet below ground in a dugout used as a telephone exchange for the first line. Some of the creature comforts have found their way to the subterranean shelter.



## TEUTONS IN GREAT GAMBLE TO BEAT ALLIES IN THE WEST

(Special Dispatch.)

LONDON, Saturday.

Lovat Fraser, writing in the Daily Mail on the German threat on the western front, says:—

"The Germans are declaring that they mean to try to break the allied line in the west. The elimination of the Russian army has restored the waning military strength of both Germany and Austria. It has also confounded those of our experts who present war to us as a page of sums rather than a contest of brains as well as muscle."

"We need not be prematurely alarmed by the threats of the enemy, but it is not wise to ignore them. If the Germans and the Austrians propose to engage in the most colossal gamble in history, we had better consider our prospects of success."

And first, why does the alleged intention of the enemy amount to a gamble? Because they are like a gambler who after heavy losses comes into a big legacy and risks the whole of it on a single throw. It is a gamble because up to now the chief military lesson of the war in the west has been that on the whole, and until new devices and methods are found, modern arms confer an advantage on the defence. Both sides have proved two things at great cost to themselves.

**Strength of the Defensive.**  
The first thing is that the initial stages of an attack almost invariably succeed.

The second thing is that hitherto it has been impossible to develop on a sufficient scale the advantages won in the first rush. The Germans demonstrated this at Verdun, the French in Champagne in 1915. We need not multiply examples. There is no reason to suppose that the enemy will now succeed in rebutting these conclusions, and that is why their attempt, should they now make it, will be a gamble on an unprecedented scale.

Next, it may be noted that the great amount of drum-fire in the enemy press is very unusual. The German newspapers have not as a rule announced military plans in advance. Perhaps the enemy are trying to frighten nervous people into joining the ranks of our wobblers. Perhaps they have some entirely different object in view. Perhaps they are telling the truth for once, and calculate that they may not be believed.

The only possible course for us is to look at the probabilities. The Germans and Austrians cannot entirely strip the Russian front, but they can leave it very thinly held. Here may say that I can see no present prospect of an improvement in Russian conditions. I can find nothing in history to show that the Cossacks have ever exercised a determining influence upon the destinies of Russia. They are only a drop in the ocean of Russian humanity.

**Advices Against Traitors.**  
And may I add that I do not understand the suggestion that we should talk benevolently to the people who have seized power in Russia? Treaty breakers look alike to me, whether they are "friends" or foes. I can see no moral difference be-

tween violating the treaty about Belgium and breaking the Pact of London. The one act has enslaved a nation, the other has betrayed the Western Allies, who are fighting alone to-day for the cause upon which Russia's future depends. We cannot fight because one treaty has been broken and then condone the breaking of another. I know all the specious arguments about throwing Russia into the arms of Germany, but depend upon it, the simple rule for nations as well as individuals is to have nothing to do with traitors. That way lies the ruin of our cause.

To return to our main theme, it is probable that the enemy will do the obvious thing, which is to concentrate in the west. They can only do so gradually, and though they already have drawn upon their Eastern front for heavy drafts and many guns it seems extremely unlikely that they will attack, so to speak, to-morrow morning. This is the biggest thing they have ever undertaken, and they will not launch their blow until they are fully ready. I shall not attempt to quote from the many estimates of their strength which are being published. It is enough for us to know that by the spring at the latest they can count upon a sufficiently formidable addition to their numbers.

**Austrians of Less Moment.**  
The bulk of their reinforcements cannot be of the first quality. We need not be disturbed about the statement that Austrian divisions may be put into the line in France. The Austrian army seems to be like the widow's curse, for it never runs dry; but the Austrian troops to-day are believed to be very much below what they were in 1914. In this war they have never yet had to face British and French

artillery and British and French infantry in the mass, and whatever may happen to our line we need not worry about the sectors where Austrians attack. As for the enemy's guns, it has to be remembered that although they will have more guns in the west than ever, it is by no means clear that they possess shells in sufficient quantity. The available evidence seems to suggest that the enemy are probably rather short of matter for making shells.

I am not belittling the menace which may confront us, but am trying to reduce it to its correct proportions. I believe the line in France and Flanders should resist any attack which may now be directed against us. It is true that the Germans broke our line at Gouzeaucourt the other day, and that they have since seized two small sections of trench near Rencourt and at Polderhoek, as we have done times without number. But when all is said it would seem that at Gouzeaucourt the enemy did pretty badly. We talk of surprise, but nobody seems to have been surprised that the Germans, who failed to reap the full profit from their stroke. I suspect that some searching inquiries are in progress on the other side of No Man's Land as well as on our own.

I should say that at the moment the real danger spot is Italy rather than France. Our turn may come, but the highly efficient Germans have an awkward habit of cleaning up jobs as they go, which is also our own practice on occasion. Having got Russia and Roumania out of the way for the time being, it is natural that they should turn next to Italy and endeavor to overwhelm her while she is still reeling under a sore blow. The Italian army has fought one of the most magnificent fights of the

whole war and has stemmed the tide of invasion with marvellous fortitude, but the issue still hangs in the balance and we must not deceive ourselves. The long pause was dictated by military necessity.

**Italian Outlook Uncertain.**  
All those masses of Austro-German men and guns on the Sette Comuni Plateau and between the Brenta and the Piave are not there for nothing. They do not mean to winter amid the hills if they can help it. Valstagna appears to be the vital point through which they hope to debouch into the plains, and if they dispose of Italy while rehearsing Armageddon in the west it will suit them very well. The outlook on the Italian front is hopeful for the Allies, but by no means certain.

The best experts assure me that there is no likelihood of a thrust at Salonica until the spring. "When the trees bud" is an old war motto in the Balkans. The surrender of Jerusalem is a great political and historical event, but from the broad military point of view our forces in Palestine cannot now materially affect the main course of the war unless they can reach Aleppo, which is more than three hundred miles farther north. Falkenhayn is the mystery of the moment. I think he is in Mesopotamia, and should be heard of soon with his two German divisions, but with the bulk of the Germans and Austrians streaming westward Bagdad has become a side issue.

We have a tough time ahead, yet if we face the facts, abstain from adventures, and intern our bell ringers, we ought to pull through. The fate of the Empire may depend upon the decisions to be taken this week regarding the allocation of the balance of our man power; but this is a contest of brains as well as men, and both on land and sea we must not let ourselves be beaten in brain power.

## FORCED RATIONING MARS JUST PRIDE, WRITER DECLARES

Barry Pain Says It Involves Vast Expense, Fraud, Forgery and Other Troubles.

(Special Dispatch.)

LONDON, Saturday.

Barry Pain, writing on the psychology of the food problem and the ration table, says in the Daily Chronicle:—

Many years ago public opinion put an end to intoxication as a national habit. To-day the formation of the necessary public opinion—the control of the general mental attitude—would settle the food question.

We have enough, but nothing to spare, and we wish to prevent people from taking too much. On the face of it it might seem that this should be easy. But our attempts in this direction have failed, and have deserved to fail; the psychological factor, but for some crude advertisements, seems to have been ignored.

### Will Involve Vast Expense.

Continued failure will result in compulsory rationing. Compulsory rationing will have some results that have been frequently mentioned—it will involve vast expense, the employment of labor that is wanted for other purposes, difficulties of organization, fraud and forgery, and so on.

It will have another result—it will wound the just pride of every decent man, woman and child in the kingdom.

What has psychology to do with food? The brain is the director general of function. Through the brain appetite may be stimulated or lessened and digestion may be promoted or inhibited. The brain is influenced by suggestion. The quack knows this, and in consequence sometimes effects cures. It is not his pill which cures; it is the suggestion in the advertisement of the pill. It is not only in the hypnotic state that suggestion is effective. It is always at work on people in a perfectly normal condition.

### The Power of Suggestion.

Now let us suppose that a man sees on a hoarding the appeal, "Eat less bread." He sees it frequently on other hoardings and in many newspapers. This should influence him, more or less according to his susceptibility, toward moderation in bread eating. But it does not influence him. How should it? A suggestion cannot work when a stronger suggestion is opposed to it. For every once that he has seen that advertisement he has seen twenty times or more a lavish display in the windows of bakers' shops or tearshops.

The suggestion of plenty is stronger numerically than the suggestion that economy is needed. It is also stronger in quality, for the real thing is more oppressive than the name of it. The fact that it is unconscious suggestion gives it an additional power. And, lastly, the sight of good food is to the normal man directly provocative of appetite. The exhibition of any kind of food in a shop window should be forbidden. The suggestion that it makes is dangerous and erroneous. The shopkeeper no longer requires that kind of lure.

Then there is the suggestion of the fashionable restaurant. The restaurant proprietors have been vexed with resuscitated orders, and every resuscitated order weakens authority. They are willing—and if not they can be compelled—to fall in with any scheme of economy, but their business is to sell as much as possible for a much as they can get, and it is a food business. The atmosphere of luxury creates luxuriousness.

### Choice of Viands Too Wide.

The cooking is too good. The choice of viands is too wide. It is useless for them to plead that by some conjuring trick their chefs keep a man within his rations while giving him the impression that he has fed without stint. The whole point is that they have given the man that impression, and sent him away with a disposition toward extravagance. They are out of tune with the conditions that prevail to-day.

It would probably surprise the Food Control to find how many people could not repeat their ration table correctly. An official statement is always so dull that it makes a small mental impression. A newspaper is read quickly and the reader may be a little more thoughtful, but to which they will want to refer, but more content themselves, with intending to cut it out. The table of rations should be printed in bold type in every daily paper three times a week. The remainder should be constant.

Too much has been made of the difficulty, and consequently of the virtue of keeping within rations. All the talk of "giving up" and "self denial" is disproportionate. What is asked of us is not self denial in the war meaning of the term. A man leading a sedentary life does not really need as much as he is allowed. There may be a little trouble at first from the association of ideas.

### Associate Mind with Bread.

We must from habit associate mind with bread, for instance, or porridge with milk; but meat without bread is fairly easy, and porridge without milk can be attained. And as a rule it is no hardship to a man to leave sugar for women and children. Food economy is a matter for interesting experiment, and should have been so expounded from the first.

And now we are to join the League of National Safety, sign the declaration and wear the badge, described as a small anchor. Perhaps. But in this connection certain thoughts occur to one.

The first thought is that the food hog (who, one may mention incidentally, should have his mouth sewn up) will probably wear that badge. He will think a lying declaration an attractive price for a consideration to which he is not entitled.