

Can England Be Invaded by Airships?

UNDER the caption "An Invasion by Airships—Opinions of Experts as to How We Should Best Meet It," M. A. P. in its issue of August 1st, has the following:

It cannot be doubted that airships of one kind or another will play a part, and probably an important part, in the wars of the future. After all, had anyone prophesied twenty years ago that motor cars would be used to the extent they are now he would have been laughed at. Admitting that airships offer far more difficult problems to the inventor than did the motor car, it is reasonable to expect great developments in them during the next few years. But is the aerial invasion of England practicable, or ever likely to be practicable? and if so, how should we best meet it? These are the questions answered this week by experts in warfare.

I.—Lt.-Col. W. H. James, Royal Engineers (Reserve.)

(The famous Army tutor)

If England is not invaded until it is done by airships, she will have to wait for some time to come, for at the present moment the dirigible balloon is an exceedingly fragile contrivance which can only take a very few men. For instance, Count Zeppelin's airship can apparently carry about eleven or twelve people—the number of such vessels required to transport 50,000 men with ammunition is a question of simple arithmetic which settles the problem of invasion. Such a force would be totally destitute of cavalry or artillery, without which no invading force could live for a day.

The danger we run from the airships is that they might be used for small local attacks in connection with overseas expeditions.

When the Government chooses to find money for our experimental staff we can equip sufficient dirigibles to render any attempt of the kind indicated ridiculous.

II.—Admiral of the Fleet Hon. Sir E. R. Fremantle, G. C. B., C. M. G.

(The distinguished sailor, also pooh-poohs the idea.)

The invasion of England by airships or aeroplanes may represent a problem of practical politics in the future, but it certainly need not trouble us today.

Airships like Count Zeppelin's or those of our French friends certainly afford subject for thought, and we should not only watch their development, but experiment for ourselves, so as not to be taken by surprise.

If they become formidable, I imagine that we should meet them with similar weapons, but at present and in the near future, an invasion of England by airships is about as practicable as the storming of a fortified position by a flock of sheep.

Assuming one hundred airships like Count Zeppelin's to be capable of carrying 100 men each, that would give 10,000 men—but England could scarcely be invaded by 10,000 men, even if they could carry with them a due proportion of guns and ammunition, not to speak of cavalry; while the cost would be enormous.

In short, it is about as practicable in the present state of aerial development as Jules Verne's voyage to the moon, and I have not heard that the inhabitants of our satellite, if there are any, have been much disturbed by the intelligent appreciation of future developments of the clever French writer.

III.—Dr. T. Miller Maguire

(A characteristic fulmination from the well-known Army tutor, who is admittedly one of the most brilliant of military lecturers and professors.)

War has been conducted on land and sea since the first annals of recorded time. How

many has superior brain power, force of character, numbers, and scientific skill, of course she will prevail in war by land, by sea, or in air. There is no mystery about the matter. After a great victory at sea, troops must land and beat the land forces, or there can be no successful invasion. So with airships; plenty of forces must decide the issue on land after aerial battles.

It would require a very enormous air fleet to bombard London or Liverpool as effectively as Richmond or Vicksburg or Plevna was bombarded, and yet these were in no hurry to yield. Neither Paris nor Metz yielded to bombardment; they were starved out.

Surely unless the English have allowed—as many say is the case, by reason of the cult of games and ignorance—the Germans to sur-

pass them in energy and scientific skill and enterprise and courage, the nation that has held command of the sea against all rivals since 1588 can hold command of the air. My own opinion is that unless all classes of English change their habits of life and worship science and knowledge and Bushido instead of as at present sport and luxury, they will most assuredly lose their Empire anyhow. If they cease to be ball players and become men they could not only counterstroke each invading airship by double numbers, but also mutilate the ships by specialized ordnance and seize each ship that ventured to land a force anywhere.

After all, the final decision will always be on the surface of the land. Mother Earth will not be ignored, neither sea power nor air

methods of annihilating every airship, but we would not be able to cope with any kind of power in any respect, land or sea or air, till we get rid of party in military affairs, and the disastrous incompetence it nourishes.

But we are not prepared to publish details of our schemes, nor are we prepared to deal with the war office, well knowing that the army council would spoil any plans, however simple and wise. You may accept the doctrine, that a nation that could not be conquered by sea and land power will never be conquered by air power, unless it lets itself be surprised. We have received ample warning; will we let ourselves be surprised and ruined as was Austria in 1866, and France in 1870? You should demand an answer to this

Of course if the latter are so far developed that they will be able unexpectedly to drop large bodies of men in undefended districts, they being provided with the strength and all the necessities of an army, this country would be no safer than any other. The same would be the case if, as it is feared by some timid persons, a large German or other army were suddenly and without warning landed in England. To me both hypotheses are irrational. At the same time for means of observation, and possibly for dropping dynamite shells and the like, airships must be regarded as practical factors in war, and we should not neglect the matter, nor be unable to retaliate by means of similar amenities.

V.—Major B. F. S. Baden-Powell.

(The inventor of man-lifting kites, says we shall need new inventions.)

The question is a very large one to reply to in a few words. To combat the airships of the future we shall undoubtedly have to introduce new guns, air torpedoes, and many other inventions. The dynamite flying machine will without doubt eventually be paramount over the propelled balloon, and when that has been ousted we shall again want more inventions.

VI.—The Hon. C. S. Rolls

The famous motorist and aeronaut, says we must have an aerial fleet of our own.)

Now that international law allows the discharging of explosives from balloons and airships in warfare, we should undoubtedly be prepared for the possibility of having to reckon with one or two Continental war airships in the event of a European war, although the fear of anything in the nature of an invasion on a large scale is, in my opinion premature.

It is important that special practice in firing projectiles at aerostats should be made, but our greatest security against enemies' navigable balloons is to have a fleet of the same vessels ourselves. For this purpose it is money from government that is required, for in Colonel Capper and his staff we have at Aldershot the best possible material and knowledge on this subject that we or any other nation could wish for. It is at present simply a question of being handicapped by insufficient facilities and funds for the construction on a large scale of airships of a suitable size and system.

VII.—General Sir Richard Harrison, G. C. B., C. M. G.

(The distinguished Royal Engineers officer who was formerly Inspector-General of Fortifications.)

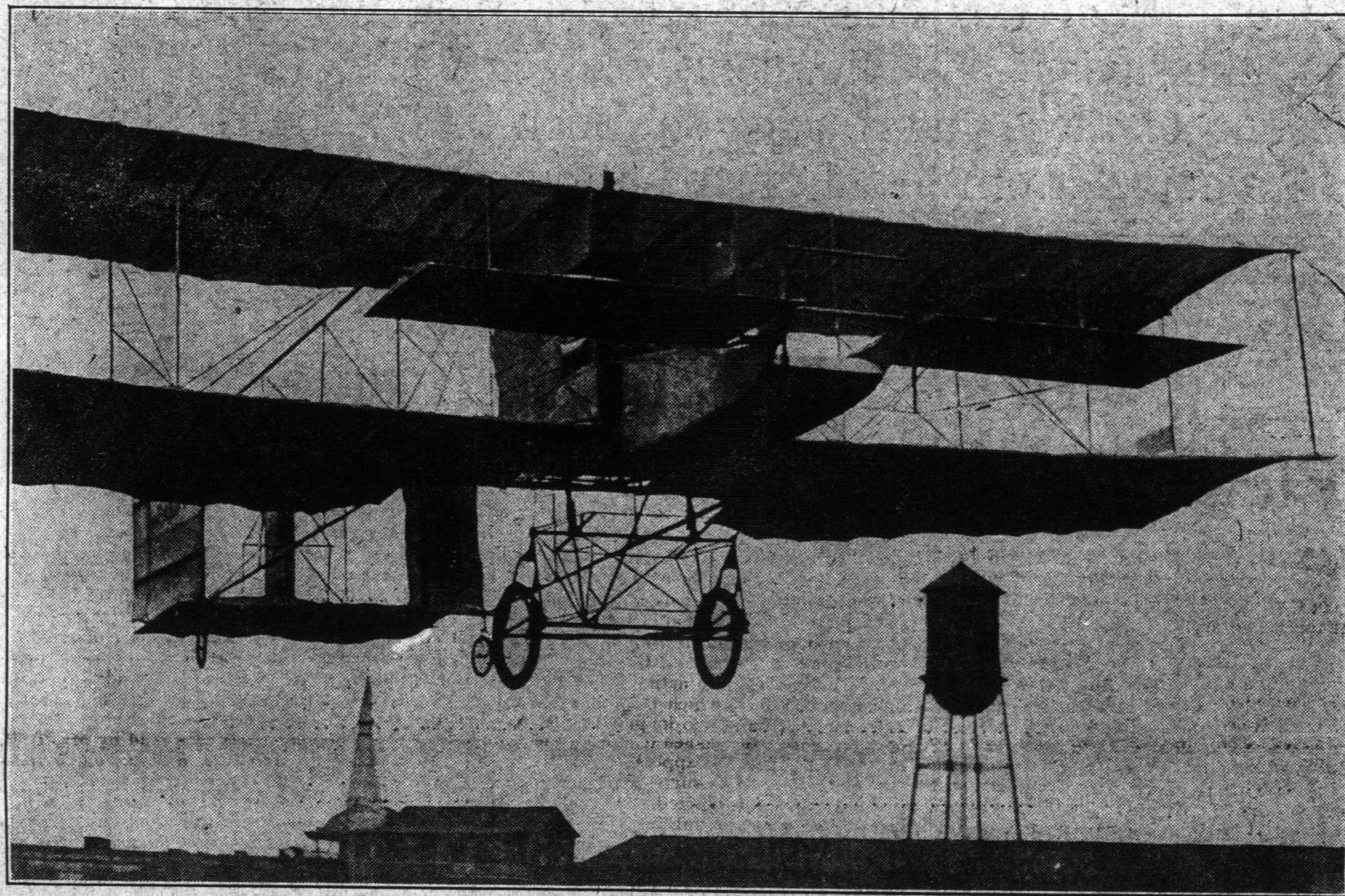
No doubt airships will, in the future, as they have done in the past, take part in civilized war. To what extent depends on the progress they make.

I expect that for some years to come their primary use will be to reconnoitre over land and sea.

VIII.—Sir David Solomons.

(The eminent electrical engineer, advocates conscription.)

I view the possibility of balloons and other aerial machines being employed in warfare at a date not far distant; even today, with good weather fortune, they are a menace. A fleet would run enormous risks, even with protecting devices, such as nets stretched overhead and other shields of the nature of "deviators," and means to attack the aerial machines. This latter proceeding is not easy, for mischief may be done before the destruction of the airship is accomplished. There is only one practical way to protect our country, namely, by adopting conscription at once and crushing all we believe to be our enemies without delay, before they get too strong.



Farman's Aeroplane in Flight at Brighton Beach

power can live long at sea or in air. If sea power never alone conquered any resolute nation, the same strategic and tactical methods with no material alteration will dispose of all aerial invasion, of which, beyond all doubt, exaggerated notions prevail. On the other hand, we must take no risks, and we must be prepared to chase every other fleet out of the sky, as well as out of the sea, once it begins to be the least threat to our security. If we are not up to this standard of wisdom, we will perish soon in any case.

There is not the least doubt that I am right in principle. Details can easily be worked out; let any other power try and navigate an air fleet, we would only be too glad if they tried next month or, better still, when Parliament meets again. We have thought out

question from the committee of Imperial defence, and not from me.

IV.—Major-General Sir Alfred Turner, K.C.B.

(The distinguished soldier who was formerly Inspector-General of Auxiliary Forces is not one of those who think that the evolution of airships will render the invasion of this country more possible than it is now.)

As you say, airships will be undoubtedly used in warfare, but I do not think that the transport of large bodies of men, sufficient to invade another power, will ever be possible, for the risks are too great, and a disaster to an airship means a holocaust. If invasion by such means were attempted, I think that obviously the most effective way of opposing it would be by means of guns, which, well served and opportunely placed, would make short work of airships.

How to Attain Long Life

READERS who desire to attain the ripe old age of two hundred years will be gratified to learn that no less eminent an authority than Wu-Ting-Fang, the Chinese minister to the United States, declares it is quite possible to do so. There have been in China, he says, men and women who have attained that age, and he is not without hopes of living two centuries himself. In order to have some playmates of his own age, Minister Wu gives to the world his dietary system, in the hope that it will do for others what he expects it to do for himself.

Minister Wu begins the day without breakfast, and eats only twice a day. He is a vegetarian, and takes only rice, whole wheat bread, fruit, nuts and vegetables. He eschews all coffees, teas, cocoas, condiments and rich foods. He has also given up salt, because it tends to make the bones brittle, liquors are tabooed, and at meals nothing is drunk. He believes in drinking between meals rather than at them. Every mouthful of food is thoroughly masticated before being swallowed. That is the Chinese expert diet. In addition, he practices deep breathing, and takes moderate exercise. With many it will remain a question whether extreme longevity thus attained is not bought at too great a price. The probability is that most of us would rather meet an untimely end at 175 or 180, having experienced the delights of the table, than hang on 24 years longer and live like Minister Wu.

Those who take no particular joy in living and would be content to die off at 100, can adopt a less exacting regimen than that of Minister Wu. Sir Henry Thompson, a famous doc-

tor, who attended royalty, prescribed a set of rules for would-be centenarians. These rules he himself followed, and it is rather disappointing to note that while his book, "Diet in Relation to Age and Activity," was going through the press, Sir Henry passed away, aged 86. However, his advice is valuable, although it does clash with that of the Chinese philosopher. For instance, Sir Henry advises four meals a day. Nor does he advocate a diet composed exclusively of fruit and vegetables. They agree with each other, and with nearly every other authority, in declaring that we eat too much rather than too little. An old man should be lean and live on slender rations. Before rising in the morning an old person should sip a cup of weak tea and milk. Breakfast should be eaten about 8.30, luncheon at 1, dinner at 7, and a little refreshment should be taken at 11, if desired.

Sir Henry continues: "Following this course, the animal food supplied for breakfast and at luncheon may include an egg or fish cooked in various well known ways. At luncheon a little tender fowl may be taken, unless it is preferred to reserve it for dinner, in which case fish and a farinaceous pudding may be substituted. This last-named meal should commence with a little good consommé, often substituting a vegetable puree, varying with the season, and made with a light meat stock or broth, or both, or a good fish soup as a change. Then a little fowl or game and a dish of vegetable, according to the season of the year. Of bread eaten at meals it may be said that, whether brown or white, it should be toasted; the white, as containing

too much starch, should be toasted thoroughly, so as to be quite brittle.

We in this age are extremely skeptical over the claims of phenomenal age, and authenticated records are rare. However, despite our incredulity, there are cases as well authenticated, perhaps, as that of Methuselah, though not to be compared with this veteran's career on any other ground. Old Parr, the most famous of old men, was 152 years old, and had his last few years been characterized by as much frugality as the rest of his life, he might have lived much longer. Harvey, the famous anatomist, and discoverer of the circulation of the blood, dissected Parr and found nothing the matter with any of his organs, save a slight accretion of fat, brought on by the easy living of his last few years. It was Parr's ill-luck to attract the kindly attention of Thomas, Earl of Arundel, who made him a domestic servant in his London establishment. The old fellow simply ate and drank himself to death.

Henry Jenkins, once butler to Lord Conyers, is said to have been 169 years old, and his case is well attested. At the age of 100 he was a fisherman, and made his living on the sea, and fifty-seven years later he was a witness in a lawsuit, and gave his testimony with as much intelligence as the average witness. He was not, however, a man of much mental attainment, although he knew enough to live so long. His food was of the coarsest description, and he drank plenty of sour milk. The latter fact is particularly interesting in view of the modern claim that sour milk is the one perfect diet. It is alleged that Thomas Carn, who died in London, in 1588, was 207 years old, and according to the St. Petersburg Gazette, of 1813, a Russian, whose death was announced, was more than 200. In all there are said to have been a score of men and women who lived to be 150 years old.

The Balloon in War Time

PHOTOGRAPHING the camps and defences of the enemy from balloons by means of a new apparatus for taking pictures at long range, and sending intelligence to headquarters by wireless, is, says the New York Post, one of the possibilities of the warfare of the future held out by Lieut.-Col. Geo. P. Scriven, chief of the United States signal corps, for the Department of the East.

That aerial manoeuvres are to play an important part in fighting hereafter has been accepted by most of the civilized nations, and the tests to be held by the War Department in August at Fort Myer indicate that not only is the dirigible balloon regarded as having attained a practical position, but the flying machine is looked upon as having been developed far enough to warrant the expenditure of time and money in trying it out.

Col. Scriven himself does not think that the flying machine has shown enough yet to entitle it to consideration, but believes that the experiments made for several years in Europe with the dirigible balloon, as well as lesser ones here, have proved that these ships of the air will be valuable as a means of collecting information about the enemy which has heretofore been impossible.

"By means of a balloon and wireless communication," he said in discussing the subject, "scouting parties may get near to the enemy's camp and send all details to their headquarters. Further than that, they can probably get an almost complete photographic picture, showing fortifications and the distribution of forces. This can be done by means of the telephoto, a

new instrument with which, by the use of an extra lens, it is possible to focus on objects at a distance of perhaps a mile and get an amount of detail which makes the picture seem as if it had been taken at a few hundred feet. It would be possible to use this apparatus automatically. That is, your camera could be placed in the bottom of the balloon and operated by clockwork, and by sailing around above any given spot of which a record was desired, its details could be reproduced almost entire. Of course there will be some danger to such scouting parties, for they claim to have demonstrated in Europe that a balloon can be destroyed by gun fire at a height of a mile in the air, which is about its limit of ascent. At the same time, the wrecking of a balloon at such a height would require the greatest skill on account of the fact that there would be no perspective to help in taking aim, and gauging the distance would be largely guesswork.

In addition to its value as a means of collecting information about the enemy, Col. Scriven thinks the balloon is likely to play a direct part in warfare, in that it can be used to tow explosives through the air, and drop them down on the enemy's strongholds.

"It is true," he said, "that the United States agreed at The Hague conference that balloons should not be used for this purpose, but I believe it was about the only nation that did, so that I do not believe the idea will become operative. Even if it was accepted by the leading nations, it is likely that, under the stress of war, it would be broken, just as the dum-dum bullet has been used, in spite of the provisions against it."