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## WALTER WELLMAN TELLS OF RISKS FLIERS FACE

### A Lesson and a Warning Contained in the Deaths of Melvin Vaniman and Harriet Quimby—Perils of Flying Increased by Daring Feats at Exhibitions—More Science and Less Sensationalism Called For

By WALTER WELLMAN.

As the sun rises a huge gas airship explodes high over the edge of the sea, a mass of men's bodies dissolves in space, five brave men plunge down to death. Crowds of people along the strand of a popular pleasure resort are horrified. Three shrieking widows swoon and weep.

Near sunset a slender, graceful, fast flying mechanical bird circles over a bay, then suddenly makes a violent head down dive; its driver, a young woman, and her passenger, a man, are hurled into the water and killed. Crowds of people out for a holiday near Boston gaze, gasp, feel their thrill of terror—and the crowds are larger when the "sport" goes on next day.

Rare is the day that does not bring news of a like tragedy somewhere in the world. The statistics of flight fatalities present a terrifying total. Many men appear to have become accustomed or hardened to these regularly recurring reports and read them more or less indifferently as a matter of course. Many more are sick and weary of the oft repeated tale of tragedy; and on every hand one hears the sober questions, "To what good? Is the game worth the candle? Has not the time come for the law to interpose and put a stop to the slaughter?"

All who are interested, actively or passively, in the art of flight may well pause and give heed to these questions, to take an account of stock.

It goes without saying that flight cannot be stopped; the wheels of progress once set in motion, they roll on forever. It is in the blood of man to conquer the air, and he will go on till he does it, no matter how long it takes or how great the cost.

But it is not flight for progress, for development, for test and experiment that any one wants stopped or regulated; the more of that—the more truly scientific study and experimentation—the better.

The sort of flight a goodly part of the public think should be stopped or regulated is mere exhibition for the amusement of spectators, the show business of the air. A great part of the flight of

their lives and too often come out losers of the stakes.

Of course the element of danger cannot be wholly eliminated from popular sports and amusements. No one asks for such a thing. Men are occasionally trained or killed at football; more rarely in basketball now and then an overstrained athlete drops dead in a running race or other test of strength and endurance. In automobiling, motor boating, other sports and amusements accidents happen, lives are lost. But in all of these the percentage of casualty is so low as to be almost negligible. Danger is not an essential element of the game; the grim fascination of hurking death is not uppermost, but so remote as to be unthought of by either player or spectator.

What the world wants, what the instinct of man drives him to seek and to keep on seeking till he finds it, is complete conquest of the air. Up to this time we have only a limited conquest of the air. Magnificent as are some of the achievements, air navigation in the true sense, as we know land locomotion and water navigation, has not come, and may be far off.

Up to date no type of flying machine has performed or even given the promise of performing any really useful public service. The art has not become practical on a real commercial basis. Man can fly; he can navigate the air. But the hazard is too great. In commerce, that is, in actual everyday use doing a part of the world's work, as in rational sports and amusements, extra hazard—hazard beyond a certain reasonable limit—is a fatal weakness.

What many protest against is the practice of taking this half developed art, this art yet in a stage of transition and extra hazard, and making a show of it largely because it is still dangerous, and often shambles as well as a show; the introduction of new tricks and stunts, spirals, dives and various aerial athletics which increase both the danger and the excitement, and doubtless the gate receipts, just as new ways had to be found to shed blood in the Colosseum to fan the flagging senses of the surfeited Romans.

Men competent to speak of the technical aspects of flight say exhibitions do little to advance the art. Admirable as the aviators are for their daring and skill, few have the scientific or mechanical attainments necessary to enable them to make progress. The professional aviators as a rule are mere drivers or jockeys, not constructors. They may become more proficient, and their experience and proficiency may add a little to the sum of knowledge as to air conditions and requirements, but the gain is out of all proportion to the sacrifice of life entailed.

The sort of flight which the more

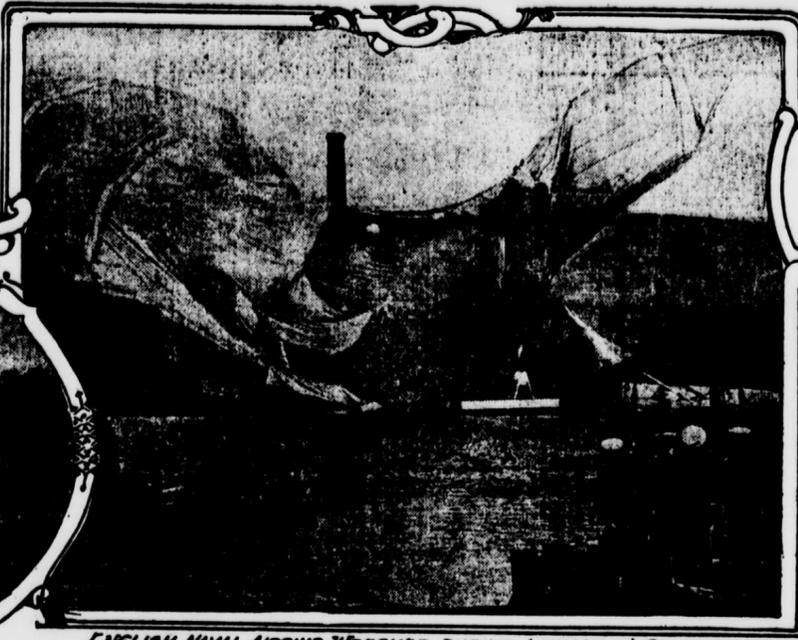
thoughtful men want to see go on is that which is directed by scientific minds with definite purpose in view, and that purpose the advance of the art. Instead of exhibition flight, scientific experimental flight, instead of courting and increasing danger with stunts, study of means to eliminate or minimize danger. Instead of the ticket office thriving on promised thrills, the laboratory, the scientific shop, studies and experiments in the laws of physics, mechanics and aerodynamics.

If now and then a life is lost in this serious minded endeavor the victims are true martyrs to progress. When a chemist loses his life in experiments with explosives designed to aid in doing the world's work we feel that the sacrifice is in a good cause. But society would not countenance giving adventures and showmen free use of dynamite with which to thrill Fourth of July crowds at a summer resort.

Most of the loss of life in aviation is in the show and not in the scientific department. If the former serves any good purpose it is to demonstrate that while man has achieved flight his next great task is to eliminate enough of the danger to make flight practical and useful in the broad sense. But this fact is already obvious and undisputed—no more victims are needed to complete the demonstration.

Can air travel be made reasonably safe on a commercial, practicable, useful basis? On this the best authorities are not optimistic, so far as the near future is concerned. Ultimately of course all believe it is to be achieved. Having gone thus far man cannot stop till he has gone the whole way; he feels that he must and will make the conquest complete. But he also realizes that he has a long and arduous road before him. Among students competent to judge there appears to be agreement that reasonably safe flight cannot be attained with the present type of machine, or if with it by the discovery and application to it of some new and well nigh revolutionary principle.

There is something lacking; a missing link remains to be found. Mechanical construction has been carried to a high state of perfection. But accidents continue; something breaks, something fails; through known or unknown causes the stability and control of the machine are lost. It is true that with purely exhibi-



ENGLISH NAVAL AIRSHIP WRECKED DURING LAUNCH AT GAVENDISH DOCK



MELVIN VANNIMAN

experiment, a fine stunt, but nothing more than a stunt after all. Its actual value would be small. Once done no one would care to do it again. It would lead to nothing. To do a difficult and dangerous thing simply to astonish mankind and make it sit up and take notice is hardly worth while if no permanent good or progress is to follow.

Into the wholly rational but somewhat difficult quest of the pole through the air a few of us entered with genuine enthusiasm and earnestness, willing not only to take chances but to persist in taking them, because that was a thing worth doing for itself. Into the effort to cross the Atlantic by the same means some of us entered with a love for adventure and striving, but without any illusions as to the permanent value of the feat even if achieved, and a willingness after the adventure had been worked out with a tolerably full measure of excitement to turn to activities more promising of useful results.

One of our number, however, chose to go on. He was wholly rational, sincere and earnest in this choice. Melvin Vaniman not only doubted the future utility of the aeroplane, but was full of faith that the gas buoyed motor driven balloon could solve the problem of aerial navigation. With him it was not only an enthusiasm but a vocation. It was more—a dream.

He dreamed not alone of crossing the Atlantic, but of creating a fleet of aerial cruisers of immense size. The crossing was to serve as a herald of the coming conquest. If ever there was a case of a man giving his life to an idea with courage and devotion hereto Vaniman's was. And the now generally accepted judgment of aeronautic engineers that the idea itself was a mistake, a mere chimera, impossible of realization, does not take an iota from the honor due him as a man of dreams and action.

Had the fates spared Vaniman and he could have found the financial support with which to go on a few years more probably he would have succeeded in making the great demonstration of which he had set his heart. But that is all. Nothing of permanent value could have been gained thereby; one crossing would not have meant many more crossings by the same means. The general use of the motor driven balloon for travel and transportation is impracticable.

The physical limitations are obvious and fatal. The larger the ship, the greater its carrying capacity, the more powerful its engines, the larger its store of fuel and theoretically the wider its range of action, the greater must be its bulk, the greater the difficulty of controlling the mass in a storm.

It we had a stormless world the motor balloon would solve the problem of air navigation. There is no way of overcoming this limitation. Discovery of a

is likely to be the work carried on under military auspices.

Generally that will be conducted with a high degree of skill, thoroughness, scientific knowledge and caution. Sport, exhibitions and unnecessary and useless risks will be eliminated. Therefore it may well happen that serious and persistent efforts to perfect flight carried on by the governments with military objectives may not only minimize the sacrifice of life but in the end attain a solution of the problem that will be useful not alone in the doubtful, and let us hope, obsolete business of war, but in the service of all mankind as a real conquest of the air.

When the solution does come it will be with heavier than air, not with gas buoyed machines. It is as well settled as anything of the sort can be that there is no future for motor driven balloons except perhaps as war engines. If we must go on developing and designing for a remotely possible war the motor driven gas ship should play an important part.

As between the present aeroplane and the present dirigible balloon the latter seems to offer more of promise for military purposes than the former. Both are extra hazardous, prolific of disaster. But extra hazard is a prime and ever present factor of war. The risks which commerce cannot and will not carry are easily borne in the war organization, which is at best waste and destruction.

Considered as a military adjunct the lighter than air type has the advantage of greater carrying capacity, with wider range of action than its small, heavier than air competitor. The former could be made a formidable cruiser or battleship or destroyer operating against naval vessels or fortifications, while the latter will excel as scout or torpedo boat. With the loss of life would be relatively greater; the money loss would be heavier with the larger and far more costly craft.

The buoyant ship has another field of usefulness and that is exploration. Wherever there are remote and inaccessible regions to be explored such ships may well be employed for the purpose. All exploration is essentially extra hazardous,



MISS QUIMBY'S MONOPLANE AFTER STRIKING THE WATER



AFTER THE COLLISION OF TWO FRENCH AEROPLANES AT QUAI



MISS HARRIET QUIMBY



VANNIMAN AIRSHIP AFTER THE EXPLOSION

the present day is nothing more or less than an aerial sport, a vaudeville of the air in the name of science.

Really scientific constructors and experimenters like the Wrights and Bleriot and a few others are obscured by a multitude of gladiators of the aerial arena, men who do not fly to advance the art, but to win prizes and gate money. If there was not a public down below, a public which directly or indirectly pays, most of them would not fly at all. And if it were not for the danger, for the percentage of chance that one or more of the gladiators will be vanquished by the antagonist with the long scythe, a goodly part of the public would not be there, craning necks eagerly upward.

One of the most beautiful of man's endeavors to conquer nature is thus degenerated into a sort of Roman Coliseum. The populace must be amused. The yearning for thrills must be satisfied. Among the Romans there was a genuine thirst for blood; without slaughter, quick and gory, the game was dull. We moderns are not quite so cruel or so frank. We say over and over to ourselves we hope no one will be hurt. When a human body comes hurtling down out of the air, or shed out of form, we are horrified, and some of us weep. But at the psychological base of things, if we analyze ourselves frankly, danger is the fascination; the possibility of tragedy is the magnet which draws the multitude.

At Rome the populace wearied not of blood spilling but of the monotony of it. New ways of butchering had to be found to stimulate the interest, to keep up the excitement. It was not enough to pit man against man or many men against many others or men against beasts, but in time women battled with women and young girls with dwarfs.

Ultimately the moral sense of the Romans roused and revolted and all was stopped. To-day it is a question in the minds of many men if the moral sense of Americans is not at the point of revolt against further sacrifice of life in flight for the sake of affording thrills to paying spectators. It is not long since the moral sense of the people roused to put an end to an otherwise harmless and admirable sport because a few of the spectators gambled their dollars and lost them. Many think the time has come to stop a sport in which the players gamble with

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librating devices, and parachutes as final recourse, have not led to important results. It is generally accepted that something else is needed—a new type of machine, a new method, or a new principle. This may come to-morrow, next year, ten years hence; that it will come some time all students seem to have an abiding faith.

Until it does come the air is not conquered. And in the present or transition state of the art two facts stand out conspicuous.

1. Further sacrifice of life in repeating over and over again the performances of the present type of machines is, to put it mildly, a mere waste.

2. The one field of distinct usefulness open to heavier than air flight, as we now have it, is in war.

Whether or not war is a sufficiently serious activity of present and future civilization to justify further sacrifices with this object alone in view is a question upon which there might be differences of opinion. But it is certain that experimentation will continue and that the most promising and productive form of this

like war, and the risks, either of life or property, are not irrational. There is small reason to doubt that if Peary had not reached the north pole by the old sledging method ere now the top of the earth would have been attained by the airship America, which was built for the purpose and for whose success only time and the right combination of circumstances and weather were needed. That was a wholly rational proposal, because it was an effort to achieve a most difficult work which man long before had undertaken and which up to that time he had found impracticable by other means.

To cross the Atlantic by airship is not and never was a rational proposal. It may be done; it is far from impossible. But the risks are too great; and we have so many other superior, safer, speedier and, judging from one experience somewhat vividly remembered, calmer and more comfortable means of effecting that crossing.

True to cross from continent to continent through the air would be a great and fascinating scientific and engineering

gas without weight would help only a little. Invention of engines affording twice as much power with the same weight of fuel would help more, but still the problem would not be solved; for a huge airship, even if safe while en voyage, cannot be taken out of her berth or be put back in it again in a strong wind without imminent danger of disaster, as the Zeppelin experience has abundantly demonstrated. Taking this type of ship as it is, at its best, whether a Zeppelin, an America or an Akron, it is as far from true air navigation on a practical basis as an Olympic or Mauretania would be if sure to be driven a thousand miles out of her course and probably wrecked every time she encountered a gale of wind athwart the steamer lane.

It is only as a war machine that it is worth while to go on with the motor balloon, as exploration offers little further temptation since the attainment of the two poles. If the type is to be developed it should be done by government. The

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