All forms of social freedom are curtailed, and a fear and persecution of all minority groups, particularly labor organizations, will probably develop.

Since war serves no human or biological need but is essentially a pathological state and violently interrupts all the natural activities of living, its effects on all participants are serious.

If war is prosecuted for a long period, it is necessary to artificially inflate enthusiasm and to artificially deaden normal reactions of fear and horror. This is likely to result in serious psychological changes in the individual and to increase the psychoses of frustration.

Science News Letter, September 9, 1939

PSYCHOLOGY

War Propaganda Success Depends Upon Rousing Hate

By DR. ROSS STAGNER

University of Colorado

PROPAGANDA designed to involve United States in war will take the form of glorifying one side of the European conflict while vilifying opposed countries.

The success of propaganda depends upon arousing emotions of anger, hatred and fear. Its effects can be neutralized by trying to see both sides, avoiding policies based on revenge and intimidation, doubting atrocity stories, shunning name calling, remembering that national governments do not publish true facts on national disputes.

Our studies emphasize that American people hate war but by allowing emotion to sweep away reason they may be plunged into it.

Appeals to our highest ideals may be shrewdly planned to let loose our most destructive emotions.

If the United States is drawn into war, we shall have censorship, destruction of free speech and preaching of international hatred on an unprecedented scale.

Here, as elsewhere, will occur a frightful increase in neurosis, insanity and twisted personalities.

Civilized values and democratic ideals will be crushed. The psychological effects will persist for twenty years or more.

Psychologists appraising this crisis plead for caution, reason and delay in judgment until facts are clear, warn against quick condemnation based on possibly distorted information.

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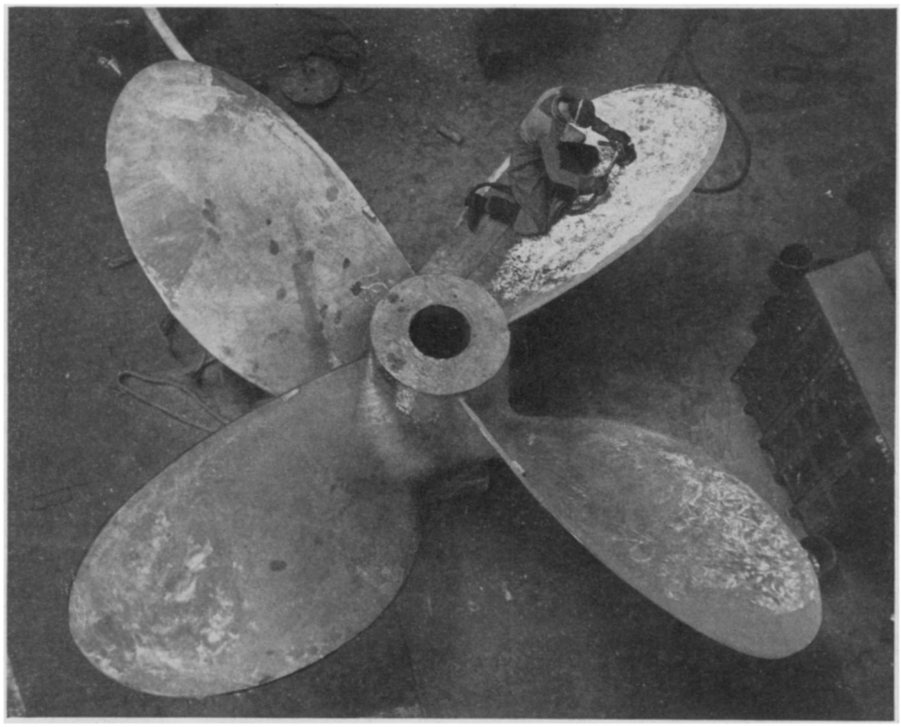

ONE OF TWINS

Polishing one of the America's propellers. Two such giants, which must be hand-finished, will be driven by geared turbines to take the ship across the Atlantic in a comfortable, economical seven days.

ENGINEERING

Newly Launched Liner Is Safest Ship in The World

THE S. S. AMERICA, launched on August 31, is not only the largest passenger vessel ever built in the United States but is the safest ocean liner in the world. Its design, naval architects of the Newport News Shipbuilding and Drydock Company, its builders, and the U. S. Maritime Commission unite in saying, incorporates a great many unusual features.

The America will never burn like the Morro Castle, the Paris, Atlantique and Georges Philippar. Fireproof construction featuring marinite, an asbestos-based material for paneling, brick and partition filler, is being used throughout. All the vessels under construction or called for in the Maritime Commission's program for rebuilding the merchant marine are similarly designed, but only a few vessels incorporating it have been finished. The America will be the largest fireproof steamship afloat.

Wood construction between staterooms and other enclosures, and wood paneling throughout, are the source of fire danger in ocean liners. Only a small amount of wood paneling will be in the ship and because of the wide use of marinite, it is not at all dangerous. Marinite was proved to be a successful fireproofing material in tests aboard the S. S. Nantasket, conducted following the Morro Castle disaster.

The America is about 40% complete today. It will be finished in what is known as a "fitting basin." Its displacement will be about 34,000 tons. Its gross register tonnage, which will not be known exactly until the ship has been finished, will be about 26,000 tons as compared with more than 80,000 gross register tons for the Queen Mary and the Normandie. Gross register tonnage, most frequently used as a measure of a passenger vessel's size, has nothing to do with weight but is a measure of the space enclosed by the hull, decks and

superstructure. Much larger vessels than the America have been built in the United States but they are all warships.

A special acoustical ceiling in the freight holds will prevent the irritating noise of cargo handling from bothering passengers aboard the vessel while in port. The America, which will not be a fast vessel, since it will require about seven days to make the Atlantic crossing, has a flush-riveted hull below the waterline to cut resistance to its passage and reduce wasted horsepower.

A sample stateroom, designed by Gibbs and Cox, the ship's designers retained by the United States Lines which will operate the America, was built while the vessel was still on the ways. It has helped in working out the basic plan of passenger accomodations. There will be about 400 staterooms altogether. Passenger capacity is to be 1219.

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GENERAL SCIENCE

Air Disarmament Today Would Not Hit Peacetime Plane Use

British Air Ministry's Research Director Says Previous Obstacle Has Been Eliminated by Progress

War stopped the B. A. A. S. meeting at Dundee after three days of sessions. All papers were made public as though actually read.

EFFECTIVE air disarmament is possible today without interfering with the peacetime development or use of the airplane, the British Air Ministry's research director told scientists meeting in Dundee, Scotland.

A previous technical stumbling block to abolition of the bomber has been eliminated by the last ten years of aviation progress, H. E. Wimperis said before the British Association for the Advancement of Science.

Ten years ago military and civil planes were so nearly alike, commercial craft could be easily converted into bombers so that any international limitation of bombers alone meant little.

Now, however, he asserted, as England wrestled with a diplomatic crisis which may end in air raids over her chief cities, commercial planes are so much slower than military ships that the commercial planes cannot be used in war. A limit on bombers alone, therefore, could be made to stick.

"The speeds of military aircraft are now in excess of 400 miles an hour and will rise still higher. But civil aircraft rarely go faster than 250, and it is doubtful whether it is economically advantageous to have even so high a speed as that," Mr. Wimperis, who is president of the association's engineering section and is a former president of the Royal Aeronautical Society, pointed out.

"Again, the comfort and space needed for civil transport tends to produce a design of body which does not in the least resemble military requirements."

Only bombers need to be limited or abolished, he continued. Fighters are useless as bombers. "It cannot worry any peace-loving country, if one of its neighbors builds 1,000 or 10,000 interceptor fighters, any more than it would if that neighbor built immense numbers of anti-aircraft guns and searchlights.

"It would be but cautious to agree on a limit to the speed of civil types, but as this would merely confirm what economic requirements would themselves suggest, it need be no hardship."

Tomorrow's largest airplane, very likely a flying boat, will weigh about 250 tons as compared with today's biggest, the 41-ton Boeing-type Atlantic Clippers, Mr. Wimperis predicted. It will be powered with a dozen 3,000 horsepower engines. The largest power plant now in existence is an American 24-cylinder engine of about 2,400 horsepower.

Shells Aid Airplane Study

SCREAMING shells from field artillery are to be photographed as they tear through the air as an aid in research that will produce the super-speed bombing and fighting planes of the future, according to plans announced by Dr. J. W. MacColl of the British Ordnance Commission, with headquarters at Woolwich Arsenal.

The photographs of course cannot be made under ordinary field conditions. They will be "posed" pictures, with the shells fired across the field of focus of fixed cameras, on the artillery proving grounds.

Not that anybody expects future planes to travel as fast as artillery projectiles. Speeds more than about twice the highest now attainable with special racing planes impose such stresses that no practical way is even remotely in sight, of building aircraft parts that could stand up to them.

The contribution of flying shells to flying machines is expected to be a better scientific understanding of how air resistance against various shapes of "nose" builds up those stresses. At present velocities, such studies are made in wind tunnels, in which extremely high-speed currents of air are blown against stationary models. But a shell can serve as an extremely high-speed model, hurtling through the stationary air.

May Near Sound's Speed

FLIGHT approaching the velocity of sound, which is about 725 miles an hour, is a possibility, though its actual attainment will be difficult and exceedingly expensive in terms of engine power, C. N. H. Lock of the National Physical Laboratory at Teddington, near London, told fellow-physicists at the meeting.

In the Teddington laboratories, air speeds nine-tenths the velocity of sound, or about 1,000 feet a second, have been achieved in a small wind tunnel only a foot in diameter. A second, somewhat larger tunnel is now under construction. It will have glass windows in the side, so that the behavior of wing models under this high wind speed can be photographically recorded.

Grass Important Food

WITH war a reality, food will figure as importantly as munitions, and there will be a corresponding temptation to plow up Britain's long-established grasslands to plant grain and other "quick" food crops. How to keep the protecting grass and yet get fullest food value out of it, via milk and meat, was discussed in a special session of the B. A. A. S.

A new method of handling grass, that has been gaining favor in Britain, is to cut it at a younger stage than is customary for hay and dry it rapidly with artificial heat. The physiological and economic advantages of this method were set forth by Dr. S. J. Watson of the Jealott Hill Agricultural Research Sta-