

WAR RADIO WEAPON

By the Editor — HUGO GERNSBACK

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BY now it should be thoroughly understood and realized by everyone that Radio Communication, as well as radio in many other phases, is just as important a war machine as are tanks, airplanes and guns.

In many instances, radio might be said to be even more important than a war machine because it works faster than either guns or airplanes and can do more damage in less time. Radio knows no frontier, and when it comes to insidious propaganda, there is no question that it can be used effectively as 5th Columnist's efforts with little chance of being caught in the act, as is the case of human beings in a foreign country.

How seriously the greatest military power on earth—the Nazis—consider radio, and how well aware they are of all its potentialities, is clearly indicated by the fact that the Germans do not hesitate to impose not only heavy fines, and even imprisonment, but often the death penalty, on those who listen-in to foreign radio broadcasts. Even amateur radio recently came up again in the news when the Nazis indicated that radio amateurs caught sending out messages would be sentenced to death.

There is nothing new about all this, but the point remains that from a technical angle, our radio engineers so far have not been able to devise counter measures that would be 100% effective against enemy broadcasts. To begin with, we have fixed broadcast stations which send out propaganda over long distances. We also have mobile broadcast stations, on war airplanes, tanks, submarines, etc. If, for instance, you were to nullify radio communication between war airplanes and their base, the airplanes could no longer function as they do today.

Yet, so far we have not been able to devise radio barrages which would satisfactorily drown out enemy broadcasts, whether originating from fixed or mobile stations.

You may rest assured that 25 years from now things will be different. Means will have been found so that radio broadcasts no longer will be able to penetrate territory into which it is not supposed to go. In the future, when an enemy airplane flies over the boundary, its radio operator will no longer be able to communicate with its own base.

"How will all this be accomplished?," you may ask. So far it is known that no one has been able to set up sufficiently powerful transmitters that would drown out broadcasts originating in other countries so that they could not be understood inside the border.

Of course, the art of radio is still young and the great importance of radio communication during war has not as yet been fully realized and appreciated by the military staffs of the various nations.

Moreover, it takes time and a very large outlay of money, to provide the means to effectively keep enemy signals from crossing border lines.

It probably will become necessary to erect special transmitting units in various parts of the country, particularly near its borders, where directional signals of great intensity will go on the air the instant when enemy signals of any kind are broadcast. It probably will be said that if you do this you will drown out your own signals as well. In other words, radio engineers will tell you that you can drown out the enemy but you also will kill out all your own radio signals.

This is not necessarily so. It may be true *today* but it will not be true in the *future*. Ways will be found, I am quite certain, so that normal radio traffic can go on within a country yet enemy and other outside broadcasts will be nullified completely. It most likely will all be accomplished by some new means not as yet used, and probably by special equipment which directs barrage waves against the enemy, yet does not interfere with the country's own signals.

All of this is, of course, important—not only for ordinary broadcasts but, far more important, when it comes to airplanes, tanks and other war machines which today are dependent upon effective radio communication, not only with their own bases but with their own squadron as well.

I feel quite certain that many new radio-defensive inventions will come about in a not very distant future, to make possible all of the above. Many intricate technical problems, of course, remain to be solved before all this can be accomplished, but it is not hopeless and certainly not impossible. If we had a better knowledge of what takes place in open space in regard to radio waves, we would perhaps be in a better position to solve the problem more quickly. There is no doubt, however, that intensive work along these lines will be attempted shortly.

War history shows that there has never been a war weapon which did not have its ultimate answer. Radio as a war weapon will be found no different.