ever, the results on even this small number of patients seem encouraging.

Sulfanilamide cannot be considered a cure for rheumatic fever, on the basis of work so far reported. But if it can ward off further attacks after the first one, it will improve the outlook for patients who survive a first attack. This disease, which attacks children chiefly, damages the heart. Each attack after the first one threatens further damage to the heart, and each year thousands of children and young men and women die of heart trouble caused by this disease.

The question of whether to give sulfanilamide to ward off further attacks of rheumatic fever should, of course, be determined in every case by the patient's doctor. The drug is not given during attacks.

Science News Letter, February 13, 1943

MILITARY SCIENCE

Armored Trains a Success

Bearing batteries of light and medium field guns and large numbers of machine and anti-aircraft weapons, Russians have found them powerful.

➤ ARMORED TRAINS, bearing batteries of light and medium field pieces and large numbers of machine and anti-aircraft guns, have been operating successfully in the Russian campaigns, *Infantry Journal* (February) states; and its editor recommends a careful study of this weapon for possible adoption by the American Army.

Not much information is available about Russian armored trains, and a considerable part of the little we have comes from enemy sources. The Germans belittle them, but the cheers they send up when they succeed in destroying one of them belie their own propaganda. Nazi sources state that the Red Army possessed in all about 100 of these trains, of which they claim to have destroyed 30. If this is anywhere near accurate, the Russians must think rather well of this means of fighting, to have made so heavy an investment of materiel and men in them.

As a rule, the *Infantry Journal* states, the trains have been used in support of attacking infantry, as a kind of highly mobile artillery that can rush up, pour in a heavy volume of fire, and then get out before enemy batteries can range on them. Sometimes, however, they are sent out on independent missions, just as bodies of tanks are nowadays. They are, however, seldom used to cover a retreat—there is too much danger of being cut off and captured.

Armored trains have been likened to tanks on rails, but this simile is not as accurate as it might at first seem. For one thing, heavier guns can be used on trains than are practicable in tanks, and the rail-carried gun platforms make for much steadier fire. Moreover, telephonic inter-communication throughout the length of the train enables one command to control and concentrate all the fire rapidly on a single target. Regulation range-finders can be used if desired. A more apt comparison would be to say that an armored train is a light cruiser on wheels.

It might seem at first thought that binding so much fire power to the rails would be a bad tactical investment, with war flowing all over the countryside as it does nowadays. However, the whole story of the Russian campaign has been a struggle for cities and towns, as witness the constant recurrence of the phrase "captured inhabited localities" in Soviet communiqués. No matter how the war may wander, in the end it heads toward the railroad junction—or breaks forth from there.

Needless to say, all artillery pieces on an armored train are turret-mounted, to give all-round command. They can thus fire on either broadside when the battle line runs more or less parallel to the track, or be trained well "forward of the beam" when it crosses the right-of-away up ahead.

It would seem desirable, in the latter case especially, to have at least part of the guns capable of howitzer-type fire, should it be necessary to lob the shells right over the engine. The American 105-millimeter piece, or the British 25-pounder "gun-how" would seem well adapted for this kind of action.

Defense against armored trains is admittedly a pretty severe problem. As outlined by the Germans, it takes two forms: destroying the track ahead of the train if possible, or direct fire with the heaviest type anti-tank guns. In the German case, the dual-purpose 88-millimeter gun, with its high velocity and heavy projectiles, is the only weapon that is at once quick enough to hit an armored train and strong enough to make the hits count.

Armored trains have been used in military operations, at least in an experimental way, almost since the beginning of railroading. They appeared on both sides during the Civil War in this country, but have not been much in evidence during our later military operations.

Of course, the huge railway guns of World War I days have no relation to the armored train: they were merely a means of getting highly immobile ordnance into firing position, fired only from far behind the front lines at targets deep within enemy territory, and they carried no armor at all.

Science News Letter, February 13, 1943

Corn is an essential war crop because it produces more feed per acre than most crops, and it is convertible into meat on the farm.

It has been found that the *radio beam* used to guide airplanes may wander as much as 10 degrees from its normal positions during severe snowstorms, returning to normal position with the abatement of the storm.

TO THE FRONT — Here is the blood you donated to the Red Cross on its way to the front lines in New Guinea. It is carried on litters made by the Papuan natives.