

min C. Two other B vitamins, inositol and para-aminobenzoic acid, were without effect but lack of vitamins A and D combined seemed to reduce the phagocytic activity.

A relation between diet, particularly its vitamin content, and resistance to infection has long been suspected. The Cincinnati investigators point out that past evidence shows this is not a matter of vitamin deficiency affecting directly the resistance given by another class of

the body's germ-fighters, the antibodies. These substances are more specific in their germ-fighting activity than the phagocytes and are responsible for the kind of disease resistance obtained from vaccines.

The discovery of reduced phagocyte activity resulting from vitamin deficiency may, the doctors suggested, give a valuable means for detecting slight degrees of vitamin starvation.

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ference in his performances at rest and during exercise.

The fact that he felt so much better is due, the scientists believe, to psychological effect. His actual disability has not been decreased materially, but the exaggeration of it by his worry has been overcome. The treatment will be continued not only because of this psychological help but, more important, because the treatment should keep his silicosis from getting worse.

This checking of the disease, in the opinion of Dr. Gardner and Dr. Wright, is the most important use for aluminum treatment.

"We feel certain that it will prevent the development of silicosis and even cause retrogression of incipient disease," they stated. "It has a real place in protecting persons like this man who face ultimate permanent disability whether they quit their jobs or continue to work where they are best qualified. His mine is under good industrial hygienic control but there is still some silica in the air. 'Susceptible' as he apparently is, added exposure may hasten his total incapacitation. Aluminum should neutralize any quartz that he inhales in the future and hold his disease at its present level."

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#### NUTRITION

## Soldiers Need Vitamin C

► SOLDIERS preparing for battle or actually in combat need plenty of vitamin C to help them withstand the shock of any injuries they may receive, if results of laboratory studies on guinea pigs can be transferred to man, Dr. A. Wilbur Duryee, of New York Post-Graduate Medical School, Columbia University, reported at the meeting of the American Therapeutic Society.

Guinea pigs on a diet lacking vitamin C, the citrus fruit-tomato vitamin that prevents scurvy, succumbed more readily to shock from injury than animals getting plenty of the vitamin, he and his associates, Miss Ellen McDevitt and Dr. Bertrand E. Lowenstein, found.

Giving the animals doses of vitamin C immediately after injury did not pre-

vent their dying from shock, but those already getting plenty of vitamin C in their diet were helped by the extra vitamin dosage after the injury to survive four times as long, even though they eventually succumbed, as the vitamin-starved animals similarly treated.

Guinea pigs on diets furnishing plenty of vitamin C, the Columbia scientists also found, become considerably more resistant to injury when repeated every other day. Vitamin C-starved guinea pigs, on the other hand, cannot be conditioned to injury in that way.

Vitamin C, the scientists suggest as a result of their studies, might well be added to blood plasma at the time this is given to treat shock.

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#### ENGINEERING

## Mirrors Make Industry Safer, Products More Perfect

► "IT'S DONE with mirrors," explains the latest electronic magic which promises to make many industrial jobs safer, products more efficiently inspected.

The new device, called a "wide-angle photo-electric scanner" by its inventor, E. B. McDowell of General Electric's electronic division, was demonstrated to science writers at a press conference on industrial electronics in Schenectady.

Advantages over present methods claimed for the scanner are: 1. simpler, 2. more compact, 3. more efficient. Here is how the laboratory model worked:

A four-sided area is lighted along two sides by ordinary light. On a third side whirls a four-faced pyramid of mirrors a few inches high. This picks up the light blanketing the area, and reflects it to an adjacent light-sensitive cell which is essentially an electronic emission tube.

Should an object as small as a man's finger enter the lighted area for even a two-hundredth of a second, the electronic eye will detect its fleeting shadow. Thus its application as an industrial safety

#### MEDICINE

## Aluminum for Silicosis

Treatment, pioneered by Canadian scientists, helped keep a miner from having to stop working. His improvement is due largely to psychological effect.

► THE STORY of how aluminum treatment for silicosis, pioneered by Canadian scientists, helped to keep a shift boss in an American mine from having to quit work and lose his chances of promotion was told in a report by Dr. L. U. Gardner and Dr. George Wright, of the Saranac, N.Y., Laboratory at the meeting of the Industrial Hygiene Foundation in Pittsburgh.

This 35-year-old miner suffered from a progressive type of silicosis due, the scientists believe, to excessive exposure in early life. He also seemed to be one of those persons unusually prone to develop silicosis because of poor upper respiratory protection.

For over a year he was concerned over his shortness of breath. He could not, because of the distance, go to the field laboratory where other miners were inhaling metallic aluminum powder for silicosis, prescribed by the Porcupine Clinic in Canada, so he was given a small quantity of powdered alpha monohydrate of aluminum which he inhaled from a simple apparatus consisting of two bottles, an atomizer bulb and a valved mouthpiece.

This seemed to help him as much as the metallic aluminum powder was helping the other miners. Tests after 50 daily treatments, and again after about 50 more, however, showed no essential dif-