

Do You Know?

How *lenses* can aid sight was described by Roger Bacon in 1276.

An *iron mine* in New Jersey that supplied ore for the Revolutionary War is now furnishing materials for the present war.

Small *magnets* for electric circuit breakers are now made of powdered iron by the process known as powder metallurgy.

Some 3,000 wildcat *oil wells* are reported to have been drilled in 1943 in the United States in a search for new petroleum reserves.

A *gas pipeline*, now in service 24 years, is made of surplus piping manufactured during World War I for making cannon shell casings.

Acetate *rayon yarn* is replacing war-scarce silk for insulating interior telephone system wires, and is claimed by some to be superior to silk for this purpose.

The Army uses over 25 types of *gloves*, running from mosquito protective canton-flannel hand coverings to heavy reinforced gauntlets for handling barbed wire.

A *medical history* of the war, consisting of photographs and drawings of new surgical techniques and unusual treatment of diseases, is being compiled by the Army Medical Corps.

Some *Labrador natives* practice an ingenious custom of bandaging one eye during the day to preserve it for use at night; the covered eye is adapted for night vision, it is claimed.

Night blindness is one of the oldest disorders known to man; about 4,000 years ago the eating of liver was given as a corrective treatment in the medical papyri of ancient Egypt; liver, which supplies vitamin A, is still recommended.

It has been estimated that the timberlands in southeastern Alaska, if cut on a sustained-yield basis, could produce approximately 1,000,000 tons of newsprint *paper* annually in perpetuity, or about one-fourth of the total consumption of the United States.

MEDICINE

For Penicillin Trial

➤ RHEUMATIC fever, heart-crippling disease of children and young adults, is the next disease against which the power of penicillin will be tried, it appears from a statement by Dr. Chester S. Keefer, of Boston, in charge of clinical research on penicillin for the National Research Council, in an interview following his report to the Congress on Industrial Health sponsored by the American Medical Association.

Whether or not the disease-fighting chemical from mold will be effective against rheumatic fever apparently has not yet been determined. All Dr. Keefer said in answer to a question, was: "It's in the works."

This is not surprising in view of reports at a U. S. Children's Bureau conference last fall that rheumatic fever is becoming a problem in the Army and Navy. The decision as to what civilian patients will be treated with penicillin depends, Dr. Keefer emphasized, on whether the information gained from treating the patients will help men in our fighting forces.

No more penicillin, for example, will be released for treatment of civilian cases of gonorrhea, since its effectiveness in that disease has been established. Penicillin for treatment of gonorrhea

now will be limited to the armed forces.

Investigation of the effect of penicillin in rheumatic fever has a bearing on the problem of an almost always fatal form of heart disease, bacterial endocarditis. Trial of penicillin in this disease has so far been unsatisfactory. At present experiments on a limited number of cases are under way, to see whether large amounts of penicillin given over a limited time will have a favorable effect. Until the results of this study are known, no more penicillin will be released for treatment of bacterial endocarditis.

The way to prevent this disease, however, is to prevent rheumatic fever, Dr. Keefer declared. The heart damage done by this disease is what gives other germs a chance to entrench themselves so firmly on the heart valves that neither sulfa drugs nor, so far, penicillin can rout them and save the patient. The rheumatic fever investigations, therefore, may have far-reaching results.

In spite of its spectacular effectiveness in infections with pneumococci, gonococci, staphylococci and streptococci, penicillin is without effect in virus infections, malaria and dysentery and is "probably" without value in the tropical disease, filariasis.

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CHEMISTRY

Penicillin Production

➤ PENICILLIN, doubled and redoubled, seems to be the American bid for a quick win against infection and disease among our fighting men. So rapidly have production facilities been expanding lately, that a good two-fifths of all the penicillin turned out in this country during 1943 was produced in the single month of December.

Thirteen American and two Canadian firms are now manufacturing the germ-killing drug, and within another five months the list of American firms will have grown to 21, the Office of War Information states.

Quantities of penicillin for civilian use will still be extremely limited, however, for Army and Navy requirements absorb the lion's share of total production, and still more is needed. To stretch the limited supply, the Service doctors use penicillin only in cases where the sulfa drugs fail to produce results. If casualty

lists go up steeply, even the limited supply now permitted for civilian use may be diverted to the war fronts.

The U. S. Department of Agriculture, whose biologists and chemists have been responsible for many of the improvements in mass-culturing the mold that secretes penicillin, warns against attempts to "produce penicillin in the kitchen." Molds cultured and processed under any but the most critical conditions are very apt to be worthless and may even become dangerous through the growth of "wild" contaminating organisms.

Neither is it correct to say that penicillin is the product of the molds you find growing on spoiled oranges. These usually belong to the genus *Penicillium* or one of its near relatives, but 99 times in 100 they are not of the right species for the production of penicillin.

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