

PHARMACY

Better Drugs Foreseen

► NEW DRUGS that will outclass penicillin, streptomycin, the sulfa drugs and the war-born antimalarials will be developed by pharmaceutical science and industry, John S. Zinsser, president of the American Drug Manufacturers Association, predicts.

Mr. Zinsser, a chemist by training and president of Sharp and Dohme, one of the member companies of the association, spoke as the guest of Watson Davis, director of Science Service, on Adventures in Science over the Columbia Broadcasting System.

"Scientific knowledge grows by geometric progression," Mr. Zinsser said, explaining that he based his predictions of better drugs to come on the basis of the great developments in the war and prewar years.

Seed of Medical Advances

While it is the doctor who is in the front line in our every day fight against disease, the pharmaceutical industry provides him with the ammunition, the material, the tools and often even the "seed and seed money that start great new medical advances on their way to full flower," he pointed out.

The layman who is sick is told by his doctor what medicine to take and gets the prescription for it filled at the drug store. The many steps before that can be done were described by Mr. Zinsser as follows:

"The pharmaceutical industry bridges the wide gap between the purely laboratory scientist—be he physician, chemist, bacteriologist or pharmacologist—and the practicing physician at the bedside. Very often chemists, pharmacologists and other scientists must do vast amounts of laboratory work before a drug is even

ready for clinical testing by the doctor.

"After tests have proven a drug's merit, our chemical engineers must make the jump from a pilot plant to full commercial production. And then our control chemists must guard the identity, purity, quality and strength of the drug as it moves from our plant through the wholesaler, to the pharmacist and ultimately to the patient.

"Actually, those not familiar with our industry often fail to realize the vast amount of research work in which our chemical engineers and control chemists constantly are engaged. There is little point in discovering an important new drug if our engineers can't produce it on a commercial scale. And sometimes it may be just as important to find a more precise test for the potency of a drug as it is to find a new one.

"The pharmaceutical industry contributes heavily to some phases of research and entirely supports other phases. We make our grants to colleges, universities, research organizations and hospitals engaged in pure research. We underwrite research in our own laboratories. Very often we pay the full cost of clinical testing, developmental and control work. For a variety of reasons, by and large, our pharmaceutical companies are somewhat modest about divulging the extent of their contributions to scientific research in all of its phases.

Industry's Contribution

"However, a combination of unusual circumstances, including the last vestiges of wartime controls, has made public at least part of the industry's research bill on streptomycin, one of the new germ-killing chemicals from mold. We know that 11 pharmaceutical companies contributed over \$1,000,000 in less than a year to the basic clinical evaluation of this drug. This was done by grants to a National Research Council committee under the direction of Dr. Chester Keefer, of Boston.

"After this program was finished, a similar group pledged themselves to spend another \$1,000,000 in six months to determine the value of this drug as a treatment for tuberculosis—a project supervised by the Trudeau Society, the medical arm of the National Tuberculosis Association. This \$2,000,000 clinical budget for 18 months doesn't include the money spent for other types

of research necessary to bring this drug from Dr. Waksman's test-tube to the patient's bedside. The drug is relatively hard to make—developmental research has already paid off in increased yields and reduced prices. Control chemists had to start almost from scratch to work out precise new tests for this 'miracle drug'."

Science News Letter, July 19, 1947

INVENTION


Wire Fire Alarm Cable

► WHAT MIGHT be called a wire fire watchman, a cable that can be strung anywhere to sound the alarm when a fire starts, is the subject of patent 2,423,537, granted to D. R. Wheeler of Shreveport, La. Around a central wire is wound a ribbon-like layer of insulating material, with many perforations. Outside this is a sleeve of easily fusible metal, and finally an outer insulating layer. When a fire starts, the fusible metal melts and runs through the perforations of the inner insulation, thus completing the alarm circuit.

Science News Letter, July 19, 1947

The first sign of *rabies* in a dog is a change of disposition; friendly dogs lose their friendliness, and sometimes dogs that were formerly aloof become affectionate and gentle.

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