

dren's Emergency Fund a panel of experts to advise the Fund on the technical aspects of a program upon which the Fund is embarking to vaccinate an estimated 15,000,000 children in Europe.

The Commission has, as well, accepted the responsibility for conducting studies to determine the effect on tuberculosis rates of this vast vaccination program."

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MEDICINE

Nose Remedy Tests Urged

Cites examples of damage to lining of nose and sinuses and brain in warning against premature use of new medicines.

► PATIENTS pay through the nose, literally, for sinus and other nose medicines when these are used without first being tested in the noses of animals, Dr. Noah D. Fabricant of Chicago charged at the meeting in Atlantic City of the American Laryngological, Rhinological and Otolological Society.

"Knowledge of undesirable caustic reactions (of such drugs) sometimes comes initially via the patient's nose," he declared. "If the truth be stated bluntly, this is literally paying through the nose."

Two cases of chemical meningitis following irrigation of the nasal sinuses with tyrothricin, one of the penicillin-like drugs, have recently been reported. The disease process was recreated in animal experiments, "an example of closing the garage doors after the automobile had been stolen," Dr. Fabricant commented.

Years after nose and throat specialists had "liquidated" mercurochrome by the trial and error method on patients, it was discovered that when the chemical is put in the noses of experimental animals it passes, in much less than two hours, through the linings of the nose and sinuses, the bony walls of the frontal sinus and even through the covering of the brain to stain the cortex of the brain itself.

"Wild exaggerations" were made a few years ago for a highly alkaline solution of a sulfa drug, sodium sulfathiazole, for local treatment of chronic sinus trouble. Then it was discovered that the medicine was extremely caustic to the lining of the nose and sinuses and damaging to the little hair-like processes inside.

Besides making sure the drugs they use have been thoroughly tested, Dr. Fabricant reminded nose and throat specialists that in choosing a medicine for their patients they need to consider the season of the year. The differing degrees of virulence of germs and the

possibility of bacteria having undergone metamorphosis must be taken into account. The pattern of nose and sinus infections changes from year to year, so the medicine that was helpful one year may not remedy sinus infection in the same patient the next year.

Penicillin and sulfa drugs used in the nose for the most part do not help in long-standing chronic sinus infections. This, Dr. Fabricant explained, is because the linings of nose and sinuses have become so thickened and tough the drugs cannot get through to hit the germs. In some cases of acute infection he considers penicillin and other antibiotics are "of minor help."

A "crying need" exists for new medicines to shrink the blood vessels and swollen tissues of stuffy noses in colds and sinus infections. If they can be produced in combination with one of the newer penicillin-like drugs, so much the better. But Dr. Fabricant thinks existing nose medicines combining sulfa drugs or penicillin with a chemical to shrink the swollen tissues bring relief primarily because of the shrinking chemical. The sulfa drug or antibiotic addition serves actually, in his opinion, as "a talking point."

Penicillin or other medicated throat lozenges are of doubtful value. The explanation Dr. Fabricant gave is that the germ-stopping chemicals do not get far enough back into the throat in sufficient quantity, and when the chemicals do reach the tonsils, they stay on the surface without getting at the germs within the tonsils.

Giving anti-germ chemicals by another method, insufflation, however, seems to help in some cases of sore throats. But no matter how the drugs are applied, he pointed out, so much will be washed away from tonsils and throat by the saliva that an effective concentration cannot be kept for long.

Use of sodium bicarbonate and other alkalis for prevention or treatment of colds has become a part of American folklore, but is of no value. The normal human throat is either on the acid side most of the time or slightly alkaline in limited instances, Dr. Fabricant's studies show. Consequently trying to "alkalinize" it is trying to reverse the normal state instead of trying to get back to it.

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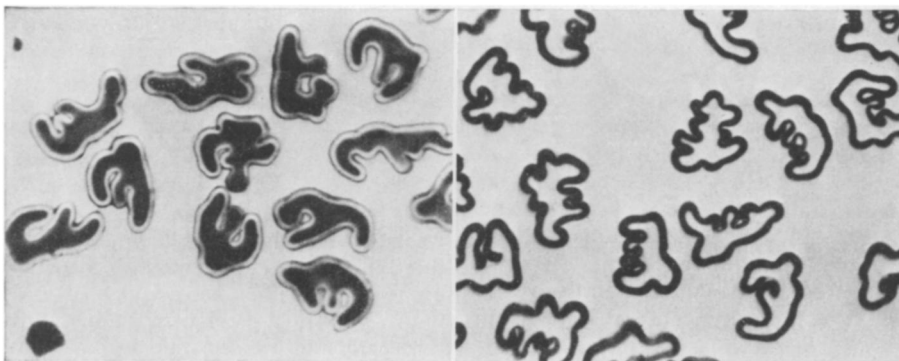
CHEMISTRY

Viscose Rayon Does Not Absorb Dye Uniformly

► VISCOSE rayon, the kind used in most rayon dresses and shirts, does not absorb dye at a uniform rate. The core of the fibers usually takes up the dye more quickly and loses it more easily than the skin.

In a cross-section of ordinary tire-cord yarn stained with Solophenyl Fast Blue Green BL dye the core is completely colored, but dye has not yet penetrated the skin.

But after dye such as Victoria Blue, used in preparing the rayon fibers, had penetrated both the core and the skin,



RAYON DYE PROCESS—These are cross-sections of rayon fibers showing, on the left, that the core absorbs the dye before the skin, and, on the right, that dye washes out of the core more quickly than from the skin.

the rayon skin is more intensely colored. The fibers were first permitted to take up all the dye they could absorb, then washed in alcohol to bleed out some of the dye. They were dried after all color had bled out of the core, but before much had been lost from the skin. Then an end-on view of the fibers was photo-

graphed.

The specimens were prepared by Dr. P. H. Hermans, director of the Institute for Cellulose Research, Utrecht, The Netherlands. Full details on staining viscose rayon fibers are given by Dr. Hermans in the *Textile Research Journal* (Jan.).

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GENERAL SCIENCE

Plan Tri-State Project

Educators meet to formulate plans for the development of Louisiana, Mississippi and Arkansas so that brains, brawn and raw resources be better utilized.

► THERE are raw materials, good rich soil, plenty of sunshine and human brawn and brains in the area of the Middle South on both sides of the lower Mississippi river.

The brains of this area are going to do something about making Louisiana, Mississippi and Arkansas more useful to the nation and to the peoples of these three states.

The leading educators—college presidents and research directors—of these three states sat down together when Greenville, Miss., cotton town near the junction of the three states, welcomed politicians, industrialists, and others to dedicate a new tri-state drive powered by the public utilities of the region. It was the first time the educators have seized the opportunity to start pulling together on the major problem of meshing the colleges and laboratories with industries and agriculture into the daily life of the region.

One of the principal exports of this region to the North consists of human beings. Population flows out of the area, along with other raw materials such as cotton, sugar, rice, tung oil, shrimp, petroleum, natural gas and other products.

But the major export of population—human beings who move north for better opportunities—consists largely of unskilled labor. This Middle South is actually an importer of professional and managerial people. Educators at the Greenville meeting were told this is a real problem. And the youth of the area who are educated in the area or who go to the Eastern colleges for advanced study are likely to get sucked away to other more aggressive regions.

Cultivation of brains, in the fields of science, technology and social applica-

tions, is a prime objective of the tri-state educational council formed under the chairmanship of President Rufus C. Harris of Tulane University.

In the long haul, this is deep plowing for the solution of agricultural problems, dispersed small industries using the raw materials available, and chemical processing of the oil, gas, sulfur, minerals, etc.

GENERAL SCIENCE

Work or Fight in Next War

► IT will be work or fight for all of us in the next war, with expected civilian casualties running so high that large numbers of doctors must be kept at home to care for them. This is the picture drawn by Army, Navy and civilian medical authorities at the meeting of the Council on National Emergency Medical Service of the American Medical Association in Chicago.

"Every ounce of available manpower will be needed," Rear Admiral Morton D. Willcutts declared. "Selective Service rejections during the last war at times exceeded 40% of those registered. That won't do in the next war.

"Those with chronic diseases, even of the psychiatric type, must find their stride and fight or work," he warned.

The Pearl Harbor blow of the next war, he forecast, will come as a special weapon for mass destruction. Whether this will be an atom bomb, a chemical agent or some unnamed weapon he said was beyond his province to name. But the death rate, he declared, will be "appalling" and the question of disposal of the civilian dead will be formidable. The new weapon will leave persistent agents of destruction so that to re-enter or ap-

proach them will be dangerous. Already science has remade practices and methods on the Mississippi delta. Sugarcane would be nearly extinct if breeders had not been successful in remodeling this plant to resist the blight. Good beef cattle are raised, thanks to such new tricks as liming the soil, year-round grazing and feeding on dehydrated sweet-potatoes.

Diseases have been conquered in the region and as a result of medical research better health has flowed to other parts of the nation and the world.

Research is an important activity in these three states. Textile developments are a prime interest of the U. S. Department of Agriculture's Southern Regional Laboratory. The technique of controlling unruly rivers is practiced on the great Mississippi by Army engineers.

But the educators of these three states see the need of more research, more graduate schools, more trained brains—and they want to start down at the "grass-roots" in the homes and the schools where boys and girls get their basic education and develop directions for living.

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proach them will be dangerous.

A total of 116,000 physicians, or one to every 1,250 of the civilian population, is the civilian medical manpower need expected to be recommended by the American Medical Association's council.

These must be "effective, able-bodied practicing physicians," it will be stressed. This is the number that will be needed to maintain civilian medical care and treatment during all phases of national emergency, and for continuing medical education and research programs.

The medical association is also expected to recommend that under a temporary draft or UMT the younger physicians who have not had military service as medical officers should be called first. The recommendation will also probably state that physicians within the military age limit requirements who have had no military training should likewise be called.

Advice on this problem of how to bring the Navy medical corps up to strength was asked of the association by Admiral Willcutts, speaking for the Navy's Bureau of Medicine and Surgery.

Only eight of the 48 states, Hawaii, the Panama Canal Zone, Virgin Islands