ASK THE SCIENTIST

If you have a question to ask the scientists, mail it to the New York Press Association, The Castle, Syracuse, 10, New York. The Science Board of the Radio Workshop at Syracuse University will answer each week in the Andover News those questions considered most interesting and timely.

Question 1. Are there new substitutes for silk and silk worms other than nylon and rayon? After the war will we return to using silk?

ANSWER. Yes, there are several new synthetic fibers which are substitutes for silk, and still others are in the process of development. I would like to point out that although we may consider synthetic fibers as substitutes for silk, many of them are better than silk in some respects and can stand on their own merits and need make no apologies to silk.

As to the use of silk after the war; some think that silk may regain at least part of its pre-war prestige, but those who are close to the synthetic textile field doubt if it will ever play a very important role again.

One of the most interesting battles now being waged in the textile field is not between silk and synthetic fibers, but between those synthetic fibers made from natural products such as wood, milk and soy beans and those made from pure synthetic compounds.

Rayon and acetate, for example, are fibers made from wood and cotton. Aralac, one of the wool-like fibers, is made from milk (cottage cheese to be exact) and still another woolly fiber is made from soy beans. All of these require as their raw materials products of living or growing things.

Nylon and vinyon, however, are produced entirely from pure chemical compounds which have been made synthetically from the elements of coal, water, salt and air, which are connected only remotely with living things.

Not only have new synthetic fibers been developed whose properties are superior in many respects to natural fibers, but new treatments of these fibers have been discovered which render them fireproof, moth and mildewproof, water repellent, shrinkproof, and wrinkleproof.—Dr. Aden King, chemist.

Question 2. A few weeks ago one of your scientists described the things which make a fur valuable. My daughters, who have purchased fur coats, were particularily interested. As I paid the bill, I am wondering how durable furs are?

ANSWER. Strange as it may seem, durability, that is, the actual wearing qualities of fur, have little to do with determining price. Comparative durability is determined by comparison with otter fur which rates highest in this respect and is graded 100.

On this basis rabbit, the most widely used of all fur, rate only 5. Natural mink rates 70, the same mink dyed rates 35. Natural seal rates 80, dyed seal 70. Muskrat, the second most widely used fur, when used naturally (undyed) rates 45. Sable rates 60, ermine 25 and chinchilla, one of the hignest priced furs, only 15.

Undyed furs are always more durable than dyed furs. Unplucked fur is always more durable than plucked fur. Furs with glossy luster are more durable than fur that has the feel and appearance of wool or down. In general, furs with long guard hairs are relatively less durable! except for fisher and skunk. —Dr. Ralph T. King, zoologist.

Question 3. Is it necessary to fumigate a house after a patient recovers from a contagious disease?

ANSWER. No, terminal fumigation of the room occupied by such a patient and of the various articles he may have handled is now considered unnecessary. A thorough cleaning with soap and hot water and perhaps wiping door knobs, wooden furniture and similar surfaces, with a disinfectant are considered adequate.

Most pathogenic microorganisms die rather promptly after they leave the body of the patient, so that inanimate articles are now known to be unlikely to harbor living pathogens after the patient has recovered.

After a patient has apparently recovered from typhoid fever or diphtheria, for example, it is not the room he has occupied or the books he has handled which are dangerous and need fumigation, but the patient himself, who might still be harboring the pathogenic bacteria although ostensibly recovered. Since we cannot fumigate the patient who may need it, it is futile to fumigate the things associated with him which do not need it. — Dr. Henry Jones, bacteriologist.

Question 4. I noticed a large tree the other day growing in a courtyard that was almost solid cement—cement at least 20 feet wide in all directions. How could the roots get moisture?

ANSWER. The root system of trees is, in general, fully as extensive as the branch and twig system. Although there is much variations between species, in the majority of cases, the roots extend outward from the trunk as far as do the branches, and in many species the roots extend almost as far down into the ground as do the branches up into the air.

Water in the soil has considerable freedom of movement and would flow in under the cement from all sides. Furthermore, the ground water level in many locations is near enough to the surface to enable the downward growing roots to reach this fairly permanent water supply. These two factors — the extensive root system and the behavior of soil water explains the tree's ability to live under the conditions described. —Dr. Ralph King, forester.

Question 5. When canned food spoils does it mean, assuming that the can is sealed tight, that not all the bacteria present were killed in the cooking?

ANSWER. Yes. If canned foods are adequately processed, that is heated, and hermetically sealed, they will never spoil as long as the container and the seal remain intact.—Prof. Jones.

Well Adjusted

School Principal — "What would you like your son to specialize in? Has he shown any particular taste?"

Mother—"Yes, for apple pie."

MR. MERCHANT
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Only Essential Men to Get Trailer Gas

Special gasoline rations for moving house trailers used by workers who move from job to job will be issued hereafter only if the workers are employed at essential establishments or construction projects, OPA says. Previously, gasoline rations could be issued for moving a house trailer to be used as housing for a person in connection with his occupation, without regard to kind of work performed. This permitted persons doing non-essential work to obtain more gasoline for travel than the maximum "B" rations provide for occupational driving. Occupational rations were not intended for transporting migratory workers not occupied on essential jobs, OPA explains.

Electric Fences

Take no chances with homemade electric fence equipment. An electric fence energized or "kept hot" by means of a device that supplies a continuous current is highly dangerous to human and animal life. Safe, commercially made electric fence energizers provide an interrupted current that gives a sharp sting to the person or animal touching the wire. Their reflexes immediately cause them to pull away involuntarily from the wire, unharmed. Electric fences of a safe type and properly installed have demonstrated their worth in efficient farm operation. To prevent needless tragedies or loss of valuable livestock that in time might cause laws curbing the use of electric fences to be enacted, it is imperative that farmers install only equipment that is known to be safe.

Good Bread

One of the tricks in making good bread is kneading the dough—knead it until it is smooth and satiny looking, with an elastic feel. Quick detection of this state comes only through experience and observation. No set time can be suggested for kneading, since the time varies with type of flour used and efficiency of the kneading technique. Standard roll dough may be used for refrigerator rolls, provided it is stored not more than two days. Dough for longer storing should have larger amounts of yeast, sugar and fat. In any case you should remember that refrigerator dough will require a longer time to rise after rolls are shaped—allow two hours for this process.

Follow the recipe, even when making drinks.

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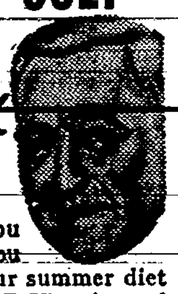

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Consumer Prospects for Household Goods

Rationing of gas cooking and gas heating stoves to consumers will end July 31, OPA and WPB said in a joint announcement. Combination ranges, except oil-gas combinations, also will be sold certificate-free after that date. Oil cooking, oil heating, combination oil-gas stoves and oil conversion burners for stoves will remain rationed.

An order requiring manufacturers to use additional quantities of water-softening "builder" materials in their products, will increase by ten per cent the United States production of household "heavy duty" laundry-type soaps, the Department of Agriculture said.

Sprinkle With Paprika

"My uncle in Venice is sending me a gondola. How am I going to play it?"

"You don't play a gondola—you throw it over your shoulder like a shawl."

Jeffery—"Did you say your girl's legs were without equal?"

Dolcini—"No, I simply said they knew no parallel."

Heart Throb

Just before the ball game a group of youngsters stood outside looking wistfully at the people streaming into the park. A benevolent old man watched them sympathetically, then walked over to the ticket-taker.

"Let all these boys in and count them as they pass you."

The ticket taker did so, and, as the last happy boy raced in, he turned to the old gentleman: "Sixteen!"

"Good!" beamed the kindly old guy as he walked away briskly. "That's exactly the way I counted them."

Not Essential

They had just bought a large farm, with horses, cows, sheep, and hens, and, being fresh from the city, there was great excitement among the younger members of the family.

One day the little daughter, aged six, was showing the minister around.

"Do your hens lay many eggs?" he asked the child politely.

"Oh, they can," said the little girl, proudly, "but in our position they don't need to."

Phoenixville, Pa.—Pfc. Richard H. Rand, at Valley Forge General Hospital, records a message to the home folks. Such machines are needed at service hospitals and can be purchased with money raised by the Double-V Waste Paper Program.

Pvt. Paul P. Nemeikis, finds that his bedside radio at Halloran Hospital, Staten Island, New York, helps a lot to pass the weary hours. Many such "extras" as this are being provided for wounded servicemen by local organizations out of their waste paper funds. It's all part of the Double-V Waste Paper Program for Victory and Veterans.

PHILADELPHIA—Wounded war veterans in Philadelphia Naval Hospital enjoy movie equipment provided by Curtis Publishing Co. employees who saved waste paper to pay for it. Double-V Waste Paper Program gives all paper-savers the same opportunity.