

## The Knowledge Bank at The Ohio State University

### Ohio State Engineer

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<b>Creators:</b>	Lamoreaux, Yvonne
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# LOOKING AHEAD

By YVONNE LAMOREAUX, E.E. II

THE most popular concept of war is that out of it comes only suffering, destruction, and waste. We must remember, however, that it is during such periods that science advances rapidly, and achievements made in wartime later lead to an enrichment of our growing civilization. Because of extensive plans being made now, we can look forward to a post-war world which will be vastly different from anything we have ever known. Men of science, making use of valuable discoveries being employed in wartime industries, are formulating a framework which will ease the transition from a wartime to a peacetime level and will build a promising future.

To reduce the number of changes necessary to convert industry to a peacetime basis, the manufacturer is paralleling research on products he is turning out for war use with those he will produce when the war is over. Bomber plastics will be used in passenger planes, farm trucks will be coated with tank finishes, and synthetic rubber tires will go off war vehicles and onto postwar highways on trucks and passenger cars. Making provisions for these changes now will prevent the unemployment of hundreds of thousands of workers later during the time industry is being remolded to fit post-war needs.

Right now, department heads of war plants are considering how great a market they will have for their peacetime commodities, the number of new products they will have, whether or not their plants will be large enough for post-war expansion, whether or not they are ready to design and build new plants, and how they can provide the necessary money for their plans. They are foreseeing the wide applications of many synthetic products they had designed at first for substitutes, which in many cases outrank their originals in quality, usefulness, and wear.

Relying on a future market for their products is not mere speculation for the manufacturers. They are employing research divisions in economics which are producing very encouraging information. These men study the markets in the U.S.A. and other parts of the world. They have tabulated data concerning markets of goods, and from these figures they are able to formulate a reliable estimate of their company's position. With this as a foundation, the manufacturer is drawing the blueprints for future world expansion.

Products being experimented with and turned out now will far overshadow those which we have used in the past. It is impossible to mention all

of them, or to do more than present a "fair average" of these commodities. Excellent representatives of what we may expect are the plastics-bonded plywood houses, the synthetic tire, and the postwar highway.

Plastic-bonded plywood is a remarkable material. Egmont Arens, New York industrial designer, says that the wood, free from knots and flaws, would carry a load approaching steel and aluminum in construction. Marcel Breuer, teacher-architect at Harvard University, has used this plywood in the construction of a unique post-war home. The walls and partitions do not act as supports, but may be moved about as the housewife pleases, making the rooms larger or smaller. In cold climates the walls would be heavily insulated, while in warmer climates the walls would be merely a series of screens. Two four inch by eight foot foundation blocks provide the building's anchorage. This house can be "folded up," moved to a new location, and reassembled in a very short time. The house is 30% lighter in weight, costs 70% as much, and occupies 30% less packing space than the current prefabrication design.

By making use of the cotton linters left on the cottonseed after the fibers have been removed, a strong and durable fabric may be produced. Used in synthetic tires, this fabric makes the tire able to take a far greater strain than the one used now. The increased speed of traffic on the post-war highways will demand a more durable tire. The same material which enables the tires on a flying fortress to take 500 to 600 landings before showing wear will be formed into a superior and long-lasting tire.

Test highways have already been built experimenting with a resin stabilizer. It has been found that roads built with resin-treated cement are unaffected by the weather conditions. Applications of the resin soil stabilizers to secondary roads in rural districts that are not hard-surfaced prevents the roads from becoming impassible quagmires in spring and fall. Results of these tests have progressed so far that the Ohio State Highway Department has specified that the stabilizer must be incorporated into all concrete mixtures for road construction in Ohio.

In the world of tomorrow, we shall find more and more materials made of synthetic fibers, many of them treated with cellulose solutions. Fabrics will be made waterproof, stain and dirt resistant, moth repellant, stain and wrinkle proof, and fast-

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colored. Plumbing, furniture, electric cord insulation, and even houses will be made of plastics. Transparent boxes will be made for anything from baby shoes and hats to flowers and lunches. Better home insulation is being produced. New agricultural sprays and fertilizers are being perfected.

These and many other improvements we have to look forward to. Already above the grime and dust of the battlefield we can see shaping our world of tomorrow.