experiment determined the intensity of light needed for flicker recognition.

In comparison with unexposed chicks, the test chicks, due to ultraviolet injuries, required 45 times as much light to recognize the flickering stripes. Not until three days later could their eyes see normally again. By shielding the ultraviolet lamps with protective glass filters that cut out the invisible ultraviolet light at about 365 millimicrons and below, it was discovered that the eyes of chicks exposed to the filtered light functioned normally.

The lamps were then shielded with a series of less efficient glass filters that cut out shorter ultraviolet radiations. Repeated experiments with these filters revealed that ultraviolet below about 365 millimicrons impaired visual functions in varying degrees depending on the wave length transmitted.

Science News Letter, October 13, 1945

ECONOMICS

Curb German Production

Engineering Council recommends that she be debarred from production of nitrogen, aluminum, synthetic liquid fuels, atomic energy and oversupply of steel.

➤ TO DESTROY German militarism and insure that Germany will never again be able to start another war, a joint council of American engineers recommends that this twice-aggressor nation be prohibited from the synthetic fixation of nitrogen, the production of aluminum and of synthetic liquid fuels, have only limited capacities for steel and steel alloys production, and be prevented from any attempt to develop or use atomic energy.

The joint council that makes this recommendation is composed of 35 prominent engineers and technological specialists representing five of the leading national American engineering organizations. Its complete report is based on several months of study and was recently transmitted to the proper government authorities in Washington. It is now released to the public in New York at the council's headquarters.

The organizations with representatives on the joint council are the American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, American Institute of Electrical Engineers, American Society of Mechanical Engineers, and the American Institute of Chemical Engineers.

The report is built around the expressed philosophy that "it is necessary to subtract from aggressor peoples, for a long period of recuperation, the fundamentals of their industrial potential for armed aggression." At the same time it is held that "complete elimination of German industries, leaving agriculture as the sole occupation, would produce an economic dislocation and social chaos of destructive magnitude, not alone in Germany but throughout Europe."

The report details the industrial factors that must be controlled. Control must be exerted, it states, over energy allocation; raw material elimination or limitation, applied to specific elements critical to war industry; processing, fabricating and new construction; scientific research; and economic subsidies.

Coal stands at the head of the list in the field of energy and among the raw materials in German economy, it says. Coal supplies 85% of the nation's energy in power and light, and is the raw material for Germany's huge chemical industry, the synthetic nitrogen industry and the synthetic fuel industry. Coal production should therefore be controlled, the council feels.

Modern war is impossible, the report declares, without a number of products required in large quantities. These include nitrogen for explosives, aluminum for air power, steel and steel alloys for land and sea warfare, and liquid fuels and lubricants to insure mobility of the instruments of war.

Science News Letter, October 13, 1945

INVENTION

Double Adhesive Sticks Rubber to Metal

➤ RUBBER should be, in many ways, the ideal protective coating for metal: it is water- and acid-proof, and some of the synthetic varieties are oil-proof also. The big drawback is that rubber doesn't want to stick to metal, but is always peeling off at just the wrong moment.

For better bonding of rubber to metal, Henry H. Harkins uses a double adhesive. First he coats the metal with a synthetic resin of the Bakelite type—phenol-aldehyde compound. This sticks well to metal. Then he sticks the rubber to this with a cement composed of rubber, a resin, and an oxidizing material.

Patent 2,386,112, covering this bonding system, is assigned to the United States Rubber Company.

Science News Letter, October 13, 1945

De-inking paper, in the repulping process to make new paper, is carried out with sodium metasilicate and rosin soap added after pulping; the alkali and rosin lift the inks from the surface, and emulsify the oily base.

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