

any appreciable influence on the policies their leaders adopt. . . .

"No techniques are yet available for eradicating the all-pervasive suspicion which Great Russians, leaders and led alike, feel towards the rest of the world. This suspicion springs from unconscious and therefore irrational sources and will not be calmed, more than momentarily, by rational actions. . . .

"In negotiations with the Great Russians, a successful outcome is most likely if negotiations are phrased in the terms of the most concrete and symmetrical equality: man for man, ton for ton, acre for acre, town for town and so on. In the view of Great Russians, the only alternative to the most rigorous equality is for one of the parties to be completely subordinate, and they always have the fear that they may be forced into the position of absolute weakness.

"Ideological arguments, notes of admonition and disapproval, and the like, are a complete waste of time and energy, as far as the Great Russians are concerned. With the Great Russian concept of truth, *pravda*, it is impossible for them to admit error in any one instance, for that would destroy their whole system of Truth and their self-esteem. . . .

"There is no likelihood of Great Russians voluntarily engaging their country in any form of international organization which might conceivably give to other countries the possibility of constraining them. Consequently, it is a waste of time to discuss, for example, the abolition of the veto in the Security Council of the United Nations. . . .

"Although the Russians will resist every encroachment, while themselves encroaching to the greatest possible degree, there would seem to be no necessity for war between the Western Powers and the U.S.S.R. The one situation which might evoke war (apart from the Western Powers 'compressing' Russia) would be if the

Western Powers manifested such weakness, or such alternations between strength and weakness, that the Russians would feel compelled to advance to such a degree that the Western Powers would feel that the menace was intolerable."

Science News Letter, September 2, 1950

ENGINEERING

Photo-Plastic Puts "X" On Strains in Machines

➤ MACHINE parts made of transparent plastic, instead of metal, are coming into wide use by technicians to let them see with their eyes the results of operation actions.

This so-called photo-plastic, first announced a year ago, is now being employed in gun factories, naval laboratories, airplane plants, arsenals and universities in the design of stronger machinery and equipment. The three-dimensional models cut from the plastic enable scientists to get a "portrait in color" of the strains encountered in tools, machine parts and other objects.

The plastic used is a modified form of Fosterite, a tough, waterproof material developed by Westinghouse scientists during World War II to seal radio and radar parts against moisture damage. The new material was developed by Milton M. Leven and Herbert F. Minter, both of the Westinghouse Research Laboratories. It can be cast in chunks from ten to 20 times larger than any other resin formerly available for strength studies, it is claimed.

One of the major uses of this plastic is in the design of breech blocks for big guns. To understand the terrific stresses these parts undergo during firing of the gun, an exact three-dimensional model of the block has been built and "loaded" to simulate the stress.

When frozen into the material and then viewed through special polarized light, the stress pattern appears as a series of varicolored lines. These tell the scientist where the major stresses are located, in which direction they are acting and just how great they are.

Science News Letter, September 2, 1950

Both New York and Pennsylvania have more acres of land in crops than all the New England states combined.

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