

X-ray treatment for cancer should be given very slowly, Dr. Wood advises. The slowness is the secret of the success of radium treatment. Radium has always been used in moderate quantities and over long periods because it was impossible to get large quantities

of it and physicians had to get the effect by prolonging the treatment.

When physicians do the same thing with X-rays, they get the same beneficial results that radium gives, Dr. Wood declared.

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#### AVIATION

## Plywood Airplane Parts Built By Revolutionary New Method

### U. S. Army and Navy Officials Keenly Interested In Process Promising Cheap and Rapid Production

**T**HE CHEAPEST and simplest process for mass production of airplanes ever devised is now under secret development at a factory in Bendix, N. J.

Airplane wings, seaplane floats and other large aircraft assemblies are made by wrapping sheets of flexible plywood around formers. The process is very much like the job of building a suit of clothes around a tailor's dummy. This revolutionary new method of plane construction is pioneered by Eugene L. Vidal, former chief of the now non-existent Bureau of Air Commerce.

Watched by Army, Navy and government aeronautical engineers with the keenest of interest, the process dispenses with costly molds and skilled labor required by other methods of using plastic-bonded plywood. The U. S. Navy is already testing seaplane floats made by the Aircraft Research Corporation, of which Mr. Vidal is president.

Cheap production of 10 or 10,000 planes of a given type is now possible for the first time. Standard methods of all-metal aircraft construction or of molding plastic-bonded plywood all require extremely expensive dies and molds whose cost can be borne only if a large number of planes are made.

After the thin plastic-bonded plywood sheet is wrapped around the formers and has been reinforced by the use of stiffeners, the whole wing or other section is placed inside a rubber bag, from which the air is then evacuated. Air pressure collapses the bag around the plywood, forcing it around the formers.

The wing and rubber bag are then placed in a steam curing oven. After the wing has been cured, the bag is removed. The formers are collapsed and withdrawn from the wing section, and are

ready for use again. The rubber bag may also be used over, it is understood.

Mr. Vidal and his associates have not yet manufactured a whole airplane, confining themselves thus far to making the most difficult individual sections.

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#### ENGINEERING

### Industrial Mobilization Planned For U. S.

**W**ARNING that force and the threat of force govern the national policy of a number of nations in the world, Assistant Secretary of War Louis Johnson told members of the American Society of Mechanical Engineers that in industrial preparedness the United States

is better off now than at any time in its history.

America must stand on guard while this world policy of force exists, Mr. Johnson added, but its preparedness is aimed for defense, not offense; for protection and not aggression; not to wage war but to keep out of war.

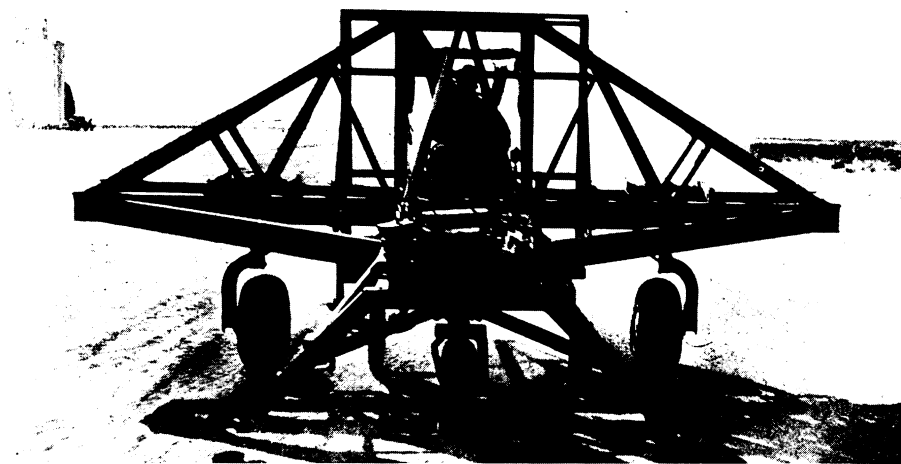
The industrial plans for America's participation in war are now laid, Mr. Johnson indicated. Ten thousand plants, throughout the nation, are earmarked for immediate wartime production if the need arises. Their managers know the tasks assigned to them and have expressed their ability to carry out these tasks.

Mr. Johnson paid tribute to mechanical engineers, as the key men in industrial production, for their cooperation with the Army in its preparedness program.

It was the U. S. Army, Mr. Johnson pointed out, which took Eli Whitney's idea of interchangeable parts for rifles and the concept of mass production and made it the basis of military ordnance.

These basic ideas are still paramount in American military policy. Thus the Army, said Mr. Johnson, ever seeks simple equipment which can be manufactured most easily.

"There is a tendency manifest among military designers of arms, ammunition and accessories," he declared, "to develop complicated machines not readily adaptable for mass production. Against such a trend, we must continually guard. We should strive to develop simple



FOR HAPPIER LANDINGS

*This curious-looking cart is no cart at all but a frame used for testing the three-wheeled landing gear with which more and more airplanes are being equipped because of its greater safety. All possible take-off and landing loads were duplicated with this apparatus by shifting the weights on the frame and by towing the apparatus behind an auto.*

weapons, whose production would present little or no problems for industry. I realize that some degree of complexity in military weapons is inescapable but, frankly, I believe that there are too many complicated weapons in the Army."

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## PSYCHIATRY

## Healthy Mental Growth Depends Upon the Parents

**H**APPINESS and a successful adjustment to what life requires depends, psychiatrists tell us, on two factors—our own hereditary predisposition and the influence of our parents and homes.

Failure, emotional underdevelopment, antagonisms, fears, and breakdowns can be traced to innate weaknesses and to the stunting influence of an unfavorable home.

Parents influence the development of the child not so much by conscious instruction as by providing an example of healthy adulthood. They act as a catalyst in the process of growing up and of transmuting the infant's love of self into an attachment for others.

In a home where the father is effeminate and "tied to his mother's apron strings" or where the mother acts the part of a spoiled child, a young boy or girl cannot hope for normal growth. When such a handicapped child marries he is in his turn unfit for parenthood.

The consequences of such a vicious circle of maladjustment were emphasized by Dr. Bernard Glueck, New York psychiatrist. To wait until a child has become the victim of his own maladjustment to remedy the situation is just shutting the barn door after the horse has been stolen, he pointed out.

When the importance of the family in the destiny of the child is genuinely appreciated, he said, the best educational enterprises of society must inevitably be focussed upon deliberate preparation of the individual for marriage and parenthood.

"The personalities and conduct of the parents," he declared, "and the home setting created by them and the other members of the household, constitute the most important forces for good or evil which can affect the child's growth and adjustment."

Although the personalities of parents are, unfortunately, pretty much fixed unalterably in their own childhood, we can with our increasing knowledge little by little modify our homes so that each generation has a better chance than had their forebears.

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## PSYCHIATRY

## Mental Breakdowns Occur On the African Veld, Too

**N**EW EVIDENCE for a similarity between the minds of men in darkest Africa and residents in the capital city of the United States was seen when a film taken in a mental hospital of South Africa was shown before an audience of anthropologists in Washington.

Mental breakdown occurs on the Veld as it does in the modern metropolis. And the mentally ill are considered "queer" by their neighbors in primitive society just as they are in civilization.

Bantu patients coming to the mental hospital in Africa bear evidence of never having taken part in the rites introducing them to manhood. Many have never been taken into the tribes as adults, presumably because it was recognized that they were not acceptable.

Neither had they taken part in the usual social customs of the tribe. Among the Bantus, the boys and girls customarily take part in a sort of courtship custom not unlike the old New England custom of "bundling." But Dr. J. B. F.

Laubscher, the psychiatrist who filmed these African mental patients, found that many of them had never been able to attain such terms of intimacy with any girl in the tribe.

Those who consider mental breakdown to be the result of the excessive strains of modern civilized life may find food for thought in the faces of the Bantu actors in Dr. Laubscher's real-life film drama. The patients in this far-away African hospital can be matched, case for case, in St. Elizabeth's Hospital at Washington, D. C. The amazing similarity of symptoms was pointed out by Dr. Winfred Overholser, St. Elizabeth's superintendent.

On the veld as in Washington, you may see men beating on their breasts or heads in the curious stereotyped gestures of the schizophrenic. You may see the tremors of the encephalitis lethargica victim. And you may see epileptics. Paranoid cases are not, however, so common among these primitive people.

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## ARCHAEOLOGY

## Old Romans Started Idea Of Family Portraits

**A**NCIENT Romans started the idea of family portraits.

People today look curiously at a family album of daguerreotypes, as something quite old in family groups. Tourists in European castles are impressed by the rows of ancestral portraits.

But to see the custom at its start, go back to ancient Rome. Noble Romans paraded the sculptured busts of their ancestors, literally paraded them. These proofs of their aristocratic lineage were brought out and marched along in funeral processions of distinguished dead.

Romans with pride in their family trees not only originated the portrait bust but also the family gallery, and the family group.

Exploring the reason for making family pictures, in the first place, a German scientist, Prof. Erich Bethe of the University of Leipzig, has traced the idea to a barbaric source.

Primitive man, including Romans in

their early history, believed that the soul of a dead person had great power to bestow good luck or bad on surviving members of the family.

Early Romans probably had this in mind, Prof. Bethe believes, when they buried the head of the family in the house itself, at his death. As he was the outstanding member of the family, his spiritual power was a special heritage.

There may have been other reasons also for this gruesome way of burial. At any rate, it continued until the Romans acquired higher standards of sanitation and placed cemeteries apart from their homes.

But belief that the soul lived on, influencing the Roman family, persisted. As the head was the most important feature of the human body, the Romans came to accept a death mask or portrait as a substitute for the ancestor's real presence in the house.

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