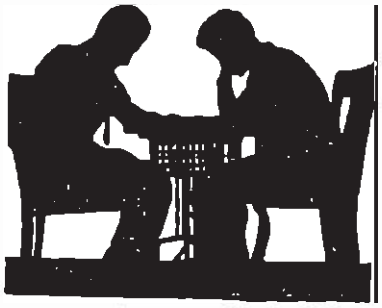
The white hope of Asia

"Converted Rice"



From *This Month*

The hope of Asia and the ravaged islands of the South Pacific rests in a tiny white grain rice. Not the familiar polished capsule of starch coated with talc and glucose which is the staple food of Asia's millions, but a new processed grain, produced in America and called "converted rice."

The man who swallowed years of failure and frustration to put converted rice into production is a determined Texan of mild manners and middle age. His name is Gordon Harwell.

Before the war, Harwell was a broker in Houston, Texas, the rice center of the Southwest. He had long been struck by the contrast between white rice and brown and had determined to find a milling method that would combine the eye-pleasing qualities of polished rice with the immense vitamin value of field rice.

Borrowing his wife's pressure cooker, Harwell set up a backyard laboratory and began to sweat over steaming pots of rice. He worked for years, but he never solved his problem.

Meanwhile the rumblings of the coming European war were driving hundreds of German scientists across the English Channel, where they would be assured freedom of scientific research. One of them was a biochemist named Eric G. Huzenlaub.

With the long-range plan of breaking the cycle of famine in India, Eric Huzenlaub had spent ten years perfecting a new processed rice. He wanted to strengthen the walls of the grain against invasion by the deadly parasitic weevil, which makes storage of rice for any length of time impossible. And he wanted to enrich the edible part of the rice plant to raise the health level of the Orient.

After studying the vitamin content of rice husks and bran, he set to work to instill in the white heart of the rice grain all the health giving elements that were ripped off with the husks when the grain was polished.

Huzenlaub succeeded where Harwell had failed. He constructed a huge, cylindrical vacuum which drew the air out of the paddy, or thrashed rice. Then, under tremendous pressure, the water-soluble nutrients and minerals of the rice husks and bran were pumped permanently into the heart of the rice grain. Thiamin and other vitamins could be added at this stage.

Huzenlaub then dumped his rice in a rotary steamer where the starch cells were broken down, welding broken grains together. When the grains (still encased in meat packages of husks) cooled, they had a glazed surface which kept the vitamines in and the weevils out. Only then was the rice husked, leaving a translucent white grain.

Huzenlaub entered his invention in the British Patent Office. Back in Texas, Gordon Harwell read of the new process. Here was his answer.

He began bombarding the biochemist with letters, cablegrams and transatlantic telephone calls, trying to interest him in a new rice industry for Texas. But Huzenlaub still cherished his old dream a string of reconverted rice mills across India. He had no use for a Houston broker.

Finally Huzenlaub came to America, not to see Harwell, but to recruit American capital for his scheme of revitalizing the Asiatic rice industry. The Texan found him and proceeded to trail him. But he could make no impression on the biochemist.

Then an accident occurred which turned the tide in Harwell's favor On the slippery pavement of a Texas airport ramp, Eric Huzenlaub fell and dislocated his shoulder. Having failed to raise American funds for his scheme, he was about to board an airliner that would eventually, take him back to Britain.

Harwell's daily visits to the hospital finally convinced Huzenlaub that the determined Texan could ably carry the banner of converted rice and promote its cause. Before the patient left the hospital, Harwell had secured his signature to use the conversion method in America.

To Gordon Harwell converted rice owes its international success. For Harwell set to work at once to mechanize the Huzenlaub process. Priorities were squeezed, junk yards were scoured for spare parts, and a plant was assembled in a dusty, old warehouse.

Raw with inexperience but dominated by the pioneer zeal of Harwell, the plant gradually smoothed into precise production with 900 barrels a day. Outlet problems were solved when the Army investigated the qualities of the new processed rice and promptly contracted for almost the entire output.

With the stamp of validity from the Quartermaster Corps on it, converted rice proved to be the ideal military staple. Major O. Wodrick of the Quartermaster Corps speaking before a convention of the American Association of Cereal Chemists in 1943, said that Army tests had shown the weevil resistance of the rice to be "very great". He also stated that the rice cooks up very well and has the advantage of remaining in separate particles instead of forming a gummy mass. Converted rice, he said, was tough and durable, adaptable for long hauls and safe storage.

Major Wodrick spoke only for the Army. He might have added, on behalf of the entire Orient for whom rice is the pledge of life, that the Huzenlaub process is one of the most

significant and revolutionary developments in food history.

Rice in Asia must be consumed the year it is produced for weevils and deterioration quickly ruin the stored grain. Thus it is almost impossible to conserve bumper crops as a guard against lean years. A good harvest in India or China means plenty of rice; a bad harvest spells inevitable famine.

To this condition, converted rice can put a final stop. During the process it becomes glazed with a hard, glassy surface which makes it weevil-proof and safe for storage in thousands of Asiatic granaries.

Equally important is the high nutritive value of the new rice. The Oriental diet suffers acutely from vitamin B deficiency which contributes to the dread disease, beriberi. Usual sources of the guardian vitamin are whole grain, lean pork, whole wheat bread, enriched flour, beans, nuts and eggs — all scarce items on Asiatic markets.

These "hard-to-get" items can now be replaced or supplemented by converted rice, recruited from the starch ranks and available in every Asiatic village. Loaded with vitamins, converted rice will raise the health level of half of mankind.

The conversion method benefits the producer as much as the consumer. A high milling return is assured, meaning a better stacked granary or more money for crops. In the polishing method now practised, rice crops usually suffer a twenty per cent loss in milling. Converted rice, through a complete steaming which gelatinizes the starch cells in the grain, attains resiliency that drastically reduces the number of broken grains.

Furthermore, the paddy may be delivered to the conversion mill in almost any condition. The old polishing mills demand bone-dry paddy; the new mills will take it dry, wet, or nearly sprouting, thus eliminating the hazard of unfavorable weather at harvest time.

A possible solution for Asia's food problem lies in the native-operated plants milling locally produced grain, for the conversion method requires few skilled workers who may be trained in as little as six weeks. Millers in thirty-six countries have already been licensed under the British patent held by Huzenlaub.

In Houston, Texas, where the technique was first commercialized, a conversion plant spreads over a bayou bank. It was constructed during the war at the request of the government to insure a steady supply to the front line. Now, the sparkling value of the pilot plant lies in its function as a demonstration center.

At the plant, teachers may be trained to instruct native operators. Foreign representatives may inspect the process, and expedite its application to their homelands.

For the billion inhabitants of India and the Far East who live or die by their daily bowl of rice, the new white grain may spell the end of undernourishment and famine.