

AGRICULTURE

New Crops From Afar

► **NEW CROPS** from throughout the world that can be used to produce paper for Bibles and jet engine lubricants are being grown and tested for use in the United States, according to Dr. Byron T. Shaw, administrator of the U. S. Agricultural Research Service.

Two such crops are timber bamboo from the Orient and Dioscorea, a yam from the tropics, Dr. Shaw told members of the National Farm Chemurgic Council at their 20th Annual Chemurgic Conference in Columbus, Ohio.

Timber bamboo, a recent study showed, can flourish throughout much of the Southeast and its pulp is suited for the manufacture of a variety of papers, including thin paper for Bibles, toweling and heavy wrapping paper.

Dioscorea, suited for growing along the Gulf coast and in Puerto Rico, was described by the government scientist as "the best plant source we have found for the cortisone-like drugs."

Many new crops under study today were selected "because they produce critical and strategic materials," Dr. Shaw said.

As examples, he listed castor oil from castor-bean plants, which have been "re-designed" for the United States by breeders. The castor oil has proved valuable in the production of jet engine lubricants, hydraulic fluids, paints, plastics and textiles.

Another crop showing promise is the canaigre, a wild root crop found in the Southwest and Mexico. It is described as the best of all plants studied for use as a farm crop to produce vegetable tannins.

Four fiber crops also under study for use on American farms are ramie, kenaf, sanseveria and phormium. Ramie, now being grown here commercially, produces a strong silky fiber used to make upholstery material for furniture and automobiles. Kenaf is seen as a substitute for jute, sanseveria for manila hemp and phormium for several cordage fibers.

"Whether these crops become established in this country," Dr. Shaw said, "will depend on our ability to make further improvements through research . . . to develop efficient varieties that can be fitted into American patterns of farming."

Science News Letter, April 2, 1955



PREHISTORIC FUNGUS—*Greatly magnified photograph shows one of the world's oldest fossils, a Pre-Cambrian fungus, now on display at the American Museum of Natural History. Two-billion-year-old filaments can be seen in this specimen discovered last year in Canada. (See SNL Feb. 27, 1954, p. 130.)*

In treating a schizophrenic, a doctor must reply in non-verbal language. Once the patient has become organized on the non-verbal level, then translation into words becomes possible.

With the depressed patient who is out of synchronization, the doctor must produce actions to fit the words of the patient or words to fit his actions.

Science News Letter, April 2, 1955

INVENTION

Plastic Foam Developed For Boats and Planes

► A **PLASTIC** foam, which promises to cut the partial cost of boat and airplane construction as much as 50%, was shown in Los Angeles at the tenth annual meeting of the Society of the Plastics Industry.

Called "syntactic foam," by its developer, the Bakelite Company of New York, the new lightweight material is produced by bonding microscopic hollow spheres made of phenolic resin together with phenolic, epoxy or polyester resins. The finished product has a cellular structure similar to that of wood and, like wood, the foam can be drilled, sawed or machined.

The density and strength of the material can be controlled during its manufacture.

Designed to be used in sandwich-like structures such as boat hulls and airplane wings as a filler or reinforcer, the plastic foam also has properties that make it useful as an insulator in the manufacture of air-conditioners and refrigerators.

Science News Letter, April 2, 1955

PSYCHIATRY

Language, Ills Related

► **MENTAL ILLNESS** is closely associated with disturbances in communication whether through words or through signs, gestures and actions, Dr. Jurgen Ruesch, psychiatrist of the University of California School of Medicine, San Francisco, Calif., told a workshop of the Washington School of Psychiatry.

In normal persons, communication starts with the baby's way of "talking" to his mother by changes of skin color and temperature, rate of breathing and movements such as sucking.

Later such expressions are replaced by movements of the face and hands and feet. The little baby's red face of anger is replaced by the child's slap or kick. Later, language becomes the favorite medium of expression.

In the mental disease schizophrenia, the patient goes back to the young infant's primitive way of communication.

"It is as if these patients were trying to relive, in later life," Dr. Ruesch said, "the patterns of communication that were frustrating in early childhood, with the hope that this time there would be another person who understandingly would reply in non-verbal terms."

The parents' lack of responsiveness in terms of non-verbal action may prevent the child from normal communication development and so lay the foundation for later mental disease.

Many schizophrenics have angular, jerky,

uncoordinated movements carried out at either too slow or too fast a tempo. Such lack of motor agility may well be the result of insufficient practice in non-verbal interaction during infancy.

The manic-depressive patient presents quite a different picture. With him, there is a lack of synchronization between non-verbal and verbal communication.

He is like a movie in which the sound track is not properly synchronized with the picture.

In patients suffering from a psychosomatic disorder such as stomach ulcers, hay fever or hives, there is a predominance of organ language, with action language secondary and verbal language employed least of all. Such a patient may not "bawl you out" if he becomes angry at you, but instead reaches for a soda mint.

The doctor who replies in words to a patient's gestures or action language gives the patient the feeling that what he says is merely noise, and is entirely irrelevant. The patient is unsatisfied and goes somewhere else for aid.

"If a patient comes drunk into the doctor's office, mumbling to himself, and plunges into the doctor's chair, he is using action language," Dr. Ruesch explained. "If the doctor gets up, takes him by the arm, leads him to the door, puts him into a taxi, and gives the driver the patient's home address, the doctor also is using action language."