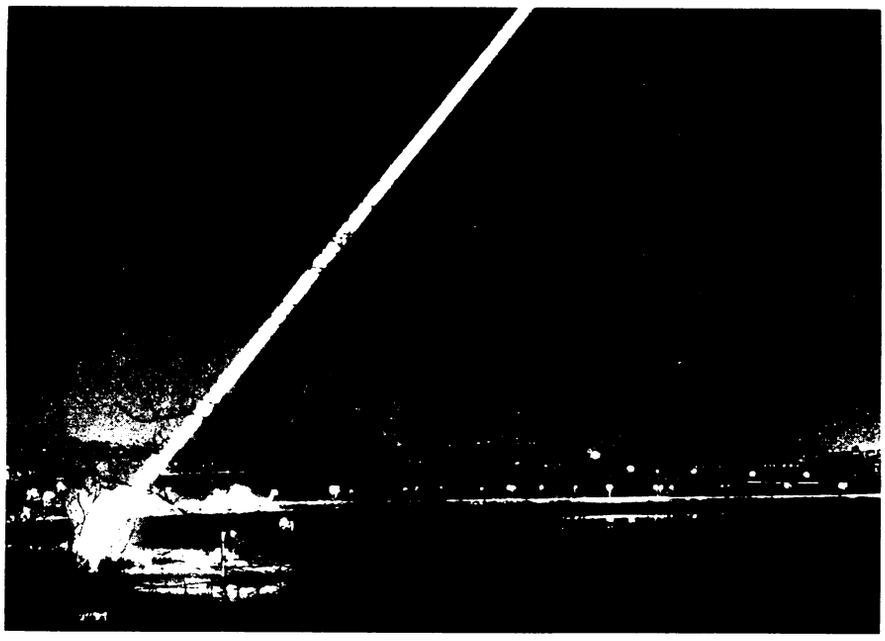

AIR TRAFFIC BEAM—Slicing into the sky near busy La Guardia Airport, this 300,000,000 candlepower beam of light guides departing planes down Flushing Meadow and away from residential areas on either side, thereby reducing noise to nearby communities.

MEDICINE

Fight Disease With Milk

➤ GRANDMA USED to "starve a fever" but the modern way is to feed it, or rather the patient, especially with milk, vitamins and body-building protein chemicals.

Details of the scientific studies back of this new idea for fighting germ-caused diseases were presented at a New York Academy of Sciences meeting in New York.

Special consideration should be given to milk as a source of virus-checking mucoprotein, Dr. Joachim Kuhnau of the Physiological Chemical Institute at the University of Hamburg, Germany, declared.

Such a chemical is needed, he explained, to stop the specific enzyme reactions by which bacteria and viruses are linked to the membranes, or outer envelope, of body cells.

The beginning of a virus infection, he said, is related to this linking of the virus to the cell membrane. It is brought about by a virus enzyme and is associated with changes in the protein of the cell membrane. These changes destroy the membrane and so make it easier for the virus to get inside the cell for its attack.

Virus and other germ infections lead to a speed-up of some body chemical processes. This results in protein breakdown and a shift in fluid from cells to the spaces in-between and a loss of fluid from various organs of the body. Treatment, Dr. Kuhnau stressed, must therefore include giving protein and protein-building amino acids, potassium and fluids.

Vitamin A is important for fighting infections, particularly in connection with kidney functions, Dr. Benjamin M. Kagan of Michael Reese Hospital, Chicago, declared. He reported animal studies showing that during infection the body draws heavily on its store of this vitamin.

Science News Letter, June 4, 1955

AGRICULTURE

Mint Gum-Flavor Saved, Chemical Kills Disease

➤ THE TELL-TALE flavors of mint chewing gums can be saved and a mint plant disease eliminated with the development of a new fungicide.

Mint rust, a fungus disease that has seriously cut the mint plant yield in northwestern United States, now can be eliminated. Previous attempts at eliminating the rust resulted in protests from gum makers, who found that the chemicals used discolored or changed the flavor of the mint oils.

Marketed under the trade name, Phygon Mint Dust, tests conducted in Oregon indicate that the new fungicide kills the rust after four to six applications of 30 to 40 pounds per acre during the season.

The fungus affects the plants by sapping their strength and cutting the yields. It winters in the soil and in the spring forms a yellow canker on the stem.

Science News Letter, June 4, 1955

AERONAUTICS

Searchlight to Direct La Guardia Planes

➤ A "TRAFFIC light in the sky" has been built at La Guardia Airport, New York, to direct departing planes away from residential areas.

It is a powerful searchlight that beams a column of light from a point about three miles from the airport. Planes taking off will fly toward the beam, avoiding the heavily populated areas and reducing noise nuisance.

The 2,500-watt short-arc mercury lamp, operated by the Civil Aeronautics Administration and developed by Westinghouse Electric Corporation, is tilted at a 30-degree angle from the vertical toward the airfield. It casts a shaft of light equal in intensity to 10,000 automobile headlights.

The searchlight was formerly used by the Army in connection with anti-aircraft emplacements.

Science News Letter, June 4, 1955

ELECTRONICS

Expect Four-Mile Range For New Loudspeaker

➤ "SAM'S" SHOUTS will be heard four miles away. That is the hope of Stanford Research Institute scientists at Menlo Park, Calif., who are now testing their mighty new loudspeaker.

Its cries will drown out conventional loudspeakers which only carry about a half mile.

Short for "Stanford Airstream Modulator," SAM has inherent advantages over radio and wire communications in civil defense, psychological warfare and military uses. It cannot be jammed. Persons in the enemy lines might not have electronic equipment to monitor broadcasts, but they could hardly ignore the bellowing roars of SAM.

A departure from conventional loudspeaker design, SAM is similar to man in more than name, the researchers point out. It has structures analogous to the human speech organs: a high pressure air compressor acts as its lungs, a quick-acting valve as its vocal chords, and an acoustic horn as its mouth.

Controlled emission of a stream of air from the compressor gives SAM his extraordinarily loud voice. The quick surges of high pressure air create the powerful sound waves. In an ordinary loudspeaker, a cone-shaped diaphragm is vibrated to set up the sound waves; no compressed air is needed.

To test SAM without setting the whole countryside in an uproar, the scientists had to build a 30-foot-long muffller, lined with two inches of glass fiber and surrounded by a box filled with 12 tons of sand.

Science News Letter, June 4, 1955

Motor car pistons are plated with *tin*, which serves as a lubricant during the break-in period.