

GENERAL SCIENCE

Blindness Needs Defining

► HOW WELL can a visually handicapped child see and still be considered blind? A new definition of blindness is needed so that "blind" children with partial vision may receive proper education.

The problem was discussed by Miss Dorothy Bryan, special education consultant of the Illinois State Department of Public Instruction, Springfield, in *The Sight-Saving Review* 32:99, 1962.

Educators have been using a definition of blindness set for quite a different purpose—the determination of workmen's compensation—Miss Bryan explained. According to this definition, a person qualified for aid if his better eye, with the aid of glasses, can see a letter on the eye-testing chart at 20 feet that the average person can see at 200 feet. In other words, 20/200 vision was the lowest limit of vision for a child who was not to be placed in a special class or special school for the blind.

Yet a high percentage has been found among the legally blind who are able to read books of conventional ink printing.

As long as a child can see well enough to learn through the use of inkprint, declared Miss Bryan, "he should be educated as a seeing child even though not a normally seeing one, and when this is no longer possible he should be given the tools and techniques of the blind child, including work with Braille."

Parents should be alerted to watch for

eye trouble in their children, Miss Bryan warned, such as crossed eyes, frequent stumbling, and short reading distance.

There are still far too many parents, she said, "who do not know that failure to take the child to an eye specialist as soon as such conditions are noticed may result in loss of vision in one eye. Too many still feel that the child will outgrow the difficulty."

• *Science News Letter*, 82:150 September 1, 1962

MEDICINE

U. S. Physicians to Study Deformed Children

► TWO U.S. physicians will study ways in which 3,000 to 5,000 children in West Germany deformed by phocomelia, caused by the drug thalidomide, are being helped.

The purpose of the study is to apply techniques to American programs for the care of congenital amputees.

The physicians are Dr. Arthur Lesser, director, Division of Health Services of the Children's Bureau, and Dr. Charles Frantz, medical director of the Child Amputee Center in Michigan, which receives support from the Children's Bureau.

More than 2,000 child amputees are being cared for under the State Crippled Children's program, supported by Bureau funds. About half of these deformities are congenital. While the number of children with

phocomelia who are being cared for by this program is relatively small, children born without one or more of their limbs from other causes present some of the same problems of adjustment and prosthetic treatment.

Prosthetics, which involves making and adjusting artificial parts, is particularly specialized for children, whose continued growth requires frequent change in size of the devices. Through work with the National Academy of Sciences' subcommittee on children's prosthetic problems, the Children's Bureau has made great progress in the past two years.

Dr. Lesser plans to pay particular attention to the growth and development of deformed children in West Germany, some of whom have been born with all extremities completely absent. He will also study the reactions of their parents in adjusting to the handicap.

Dr. Frantz will study the orthopedic and prosthetic aspects of their care which can be useful in the general approach to children with congenital amputations in the U.S.

• *Science News Letter*, 82:150 September 1, 1962

PHYSICS

Electricity From Heat Cited for Future Power

► THE SCIENTIFIC hybrid magneto-hydrodynamics may be as familiar as the light bulb is, if Dr. Stewart Way of the Westinghouse Research Laboratories in Pittsburgh has his way.

Dr. Way presented his views on MHD (magneto-hydrodynamics) at the Pacific Energy Conversion Conference in San Francisco.

An MHD generator is a giant blowtorch, only hotter, Dr. Way said. It produces electricity by passing white-hot gas at near-supersonic speed between the poles of a strong magnet. But the heat from this inferno, or plasma, causes many problems, he reported.

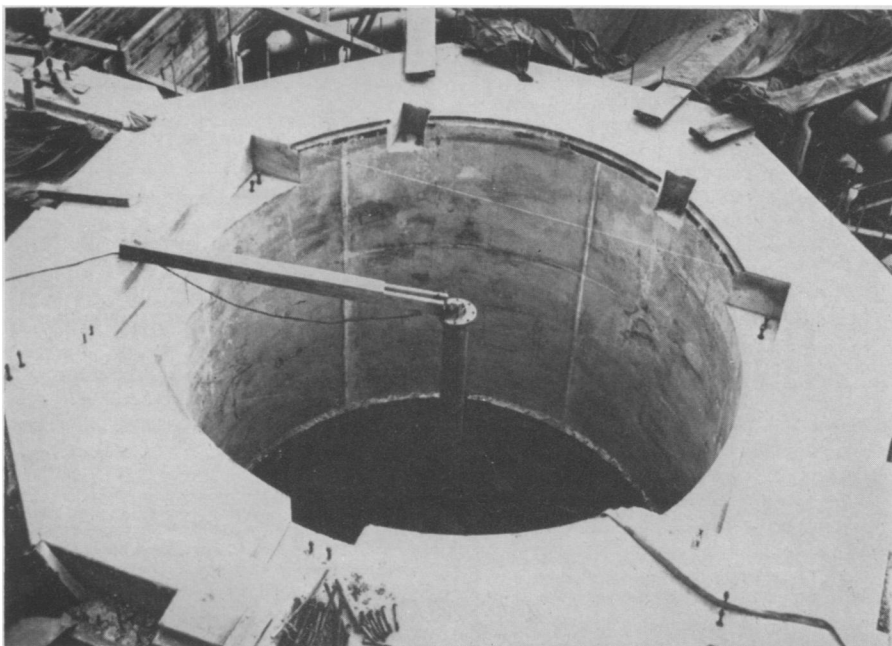
Four things must be done or found so that the heat may be reduced without sacrifice of efficiency or generator size, he said, outlining the steps to be taken in research laboratories.

A cheap ore of cesium should be used as a "seeding" material to make the plasma a better electrical conductor. Hot gases between the generator stages must be reheated. The pressure inside the generator must be lowered with an exhaust fan. And, finally, superconducting magnets should be prepared that will create stronger magnetic fields.

If all four measures could be achieved, a temperature reduction of 850 to 1,100 degrees could be taken from the MHD temperatures of 4,800 to 5,000 degrees Fahrenheit now needed, the scientist reported.

Superconducting magnets alone could double the strength of the magnetic field now in use to lower temperatures 300 degrees, Dr. Way suggested. This seems to be the brightest hope for practical, efficient, large-scale systems.

• *Science News Letter*, 82:150 September 1, 1962



ICE-WALL BARRIER—An ice-wall barrier, 34 feet in diameter, encases this 16-foot-wide shaft penetrating a giant salt deposit in Louisiana's bayou country. The ground is frozen by circulating calcium chloride brine at minus 33 degrees Fahrenheit through an intricate network of steel tubing and casing drilled 250 feet deep. Cargill, Inc., expects to recover about 35 million tons of salt at the initial 1,250-foot mining level. Winston Brothers Company, a division of U.S. Steel, and Missouri Valley Constructors, Inc., are jointly sinking the shaft.