ELECTRONICS

Advances in Transistors

The tiny devices are now beginning to come out in full commercial production, bringing the day of wrist radios, portable TV sets and cheaper car radios ever closer.

➤ THOSE TINY bits of germanium called "transistors" are taking Paul Bunyan strides through the field of electronics. They are bringing ever nearer the day of wrist radios, portable TV sets and strange musical instruments.

Already the kernel-like devices have taken over the work of tubes in some radio and TV equipment. Hearing aids also are working now without the hum and ping of hot vacuum tubes.

To hard-of-hearing persons, transistors will mean lower hearing-aid operating costs because they need very little current to operate. This means longer-lasting batteries, and some hearing aids now have dispensed with the bulky "B" battery completely. The devices work more quietly than vacuum tubes and they reproduce loud noises without as much distortion.

Because of the relative newness of the transistors they have not as yet been made in quantities large enough to invade the vacuum tube's stronghold. But it seems likely that more and more companies will be announcing full commercial production of them just as the Raytheon Manufacturing Company has announced it now is shipping "tens of thousands" to hearing-aid makers.

The Walkie Lookie, a portable TV camera affectionately called the Creepie Peepie by its users, covered the recent political conventions with transistor innards. And a telephone switching arrangement in Englewood, N. J., uses six of the match-head-size gadgets to help Englewood residents dial San Francisco telephones directly.

Much fundamental research on semi-conductors and solid state physics was done by Dr. Karl Lark-Horovitz and his research group at Purdue University, Ind. Transistors were developed by the Bell Telephone Laboratories in a program of research aimed at improving telephone service. The little things are smaller, more rugged, require less power and do a better job than regular vacuum tubes.

Radio and electronic tube manufacturers are scrambling to find new transistor applications. Hush-hush military projects are going on behind closed doors. Long-lasting amplifiers slated for ocean bottoms are being improved with transistors. Buried with transoceanic cables, the amplifiers magnify messages sent from continent to continent so they will not fade en route. Because of their ruggedness, "transistorized" amplifiers should eliminate many an electronic headache under the restless sea.

Recently, the Radio Corporation of America displayed various items to which they had hitched the transistor. The items included an electric ukulele with a built-in amplifier and speaker; a portable, battery-operated television receiver which was completely tubeless except for the picture tube, and a toy piano that had keys and transistors only—no strings.

The transistor's impact on the layman is not yet clear. But it could mean, for instance, that automobile radios will be much cheaper in the future. Transistors can operate directly from the car's six-volt battery, eliminating a relatively costly high-voltage power supply now required by vacuum tubes.

Science News Letter, February 7, 1953

ORNITHOLOGY

Hall of Pacific Birds Opens at Museum

➤ THE AMERICAN Museum of Natural History officially opened its new Hall of Pacific Bird Life on Jan. 29, culminating more than 20 years of expeditions, planning and research.

The new hall contains over 400 different kinds of Pacific birds, many of which have only been seen alive by a few explorers.

FRUIT DOVE—Part of the Philippines group in the new Whitney Memorial Hall is the white-eared fruit dove shown here.

Two of the 21 groups in the hall represent areas well known to G.I.'s of the South Pacific campaigns: Bataan in the Philippines, and Rouna Falls near Papua, New Guinea. Forty-seven species of birds are shown against the background of Corregidor, the famous Philippine fortress. Among the Rouna Falls exhibits, scene of another World War II battle, are ostrich-like cassowaries and, paradoxically, Birds of Paradise.

Science News Letter, February 7, 1953

AERONAUTICS

Cutting Plane Equipment Weight Pressing Problem

➤ ATOMIC-POWERED PLANES, intercontinental missiles and electronic robots are all being studied and developed by the U. S. Air Force, but one of the most pressing problems now facing aeronautical engineers is that of keeping down the weight of equipment that goes into fighter planes and bombers.

Gen. Hoyt S. Vandenberg, chief of staff of the Air Force, told the American Institute of Aeronautical Sciences meeting in New York that research interest should be concentrated along those lines rather than upon visions of "weird mechanical monsters swarming across the land, sea and sky at some unknown date."

We must continue to meet and defeat the sparely equipped, lighter and more numerous aircraft of our enemies. But we are determined to do it without sacrificing the lives of our pilots in flimsy or incomplete planes and without abandoning our present superiority in auxiliary combat equipment," he said.

With the increasing complexity of modern air weapons, there is a danger of being stalled on the threshold of great achievements by some seeming trifle that research has overlooked, he warned. The success of an entire new weapons system may hang on the success of an innovation as minor as the liquid suspension for gyroscopes.

Science News Letter, February 7, 1953

VETERINARY MEDICINE

Civil War Disease Plagues Today's Cattle

➤ A DISEASE said to be partly responsible for the military failures of Union Army Gen. George McClellan during the war between the states has come back to plague cattlemen and dairy farmers during the past year.

The disease, which attacked McClellan's cavalry and artillery horses, is vesicular stomatitis. Symptoms in cattle are like those of foot and mouth disease. It may also be a public health threat because humans in contact with sick animals have caught it, warns Dr. S. H. McNutt of the University of Wisconsin in a report to the American Veterinary Medical Association in Chicago.

Science News Letter, February 7, 1953