

## Transatlantic Cable Serves 36 Conversations

New York (Science Service)—The new transatlantic telephone cable system that goes into service today will carry the voices of 36 persons at once over a thin wire only 13/100ths of an inch thick.

The deep-sea portion of the system consists of two cables, each spanning the 2,200-mile distance from Clarenville, Newfoundland, to Penmarch, France. One cable carries speech of 36 persons going to Europe, and the other carries the same amount coming from Europe.

**Networks Linked**  
The system links U.S. telephone networks with those of France, Germany, Belgium, The Netherlands, Switzerland and Italy. Through European points, 36 other areas and countries can be reached. American Telephone and Telegraph company here reports.

The tiny copper heart of the cable is protected by insulation to withstand continual soaking in the Atlantic. Extra-heavy insulation on the shore ends adds protection against ship anchors and abrasion under the influence of tides. The shore-end cable lengths are a little over three inches in diameter.

The deep-sea cable section, sinking nearly three miles deep in places, is only one and one-quarter inch in overall diameter.

The 36 conversations are kept separate by placing each on its own special carrier frequency. Later, AT&T intends to double the capacity of this cable system by using a device called TASI. Now under development, TASI will fill in "silences" in the first cable as the caller listens to what is coming to him over the second cable from his correspondent.

The new cable system almost exactly duplicates one system already linking the two continents. The first system, which goes to Scotland, was laid during 1955 and 1956. The new system was laid entirely this year. Deep-water laying began on March 14. Laying was halted once in the face of huge sea fields, and once when a cable ship caught fire on June 15.

Until 1956, when the first system went into operation, transoceanic telephone conversations were relayed to Europe via radio. But AT&T reports the radio bands are now so choked with activity that the company had to resort to cables. The new system is said to have cost \$40,000,000.

## Scientists Study Forming Jet Trails

St. Paul, Minn. (Science Service)—Equations promise to explain the water-vapor trails of jet planes in the sky.

To the American Institute of Chemical Engineers, T. Englehart, A. Lieberman and J. Roskinski, of the Army Research Foundation, reported that the large amounts of water discharged by modern jets are currently under study.

Under certain conditions, the vapor becomes supersaturated and water droplets condense to form a visible trail. Due to the cooling of the trail and to the turbulence, these droplets grow by condensation and coalescence. Evaporation serves to eliminate those droplets which form but never reach a stable size.

The scientists proposed a new form of the coalescence rate equation to make possible more accurate calculation of the droplet size distribution at any stage in the growth of the trail. This awaits experimental verification.

## IBM Machine Tells on Policemen

CLEVELAND (UPI)—An IBM machine at Central Police Station here began talking about the police force recently and really came clear.

The machine disclosed that members of the force can speak 21 different languages, including Chinese, Japanese, Turkish, Arabic and Portuguese. Nine can read lips and 16 can converse with deaf mutes.

On the force are attorneys, former bank clerks, teachers, chemists, engineers, barbers, bricklayers, butchers, plasterers, plumbers, cooks, airplane pilots and even an undertaker.

The oldest policeman is 81 while the oldest in length of service has 55 years. The heaviest weighs in at 280 pounds. And the tallest is six feet seven and one-half inches.

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