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January 13, 1951

# SCIENCE NEWS LETTER

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THE WEEKLY SUMMARY OF CURRENT SCIENCE



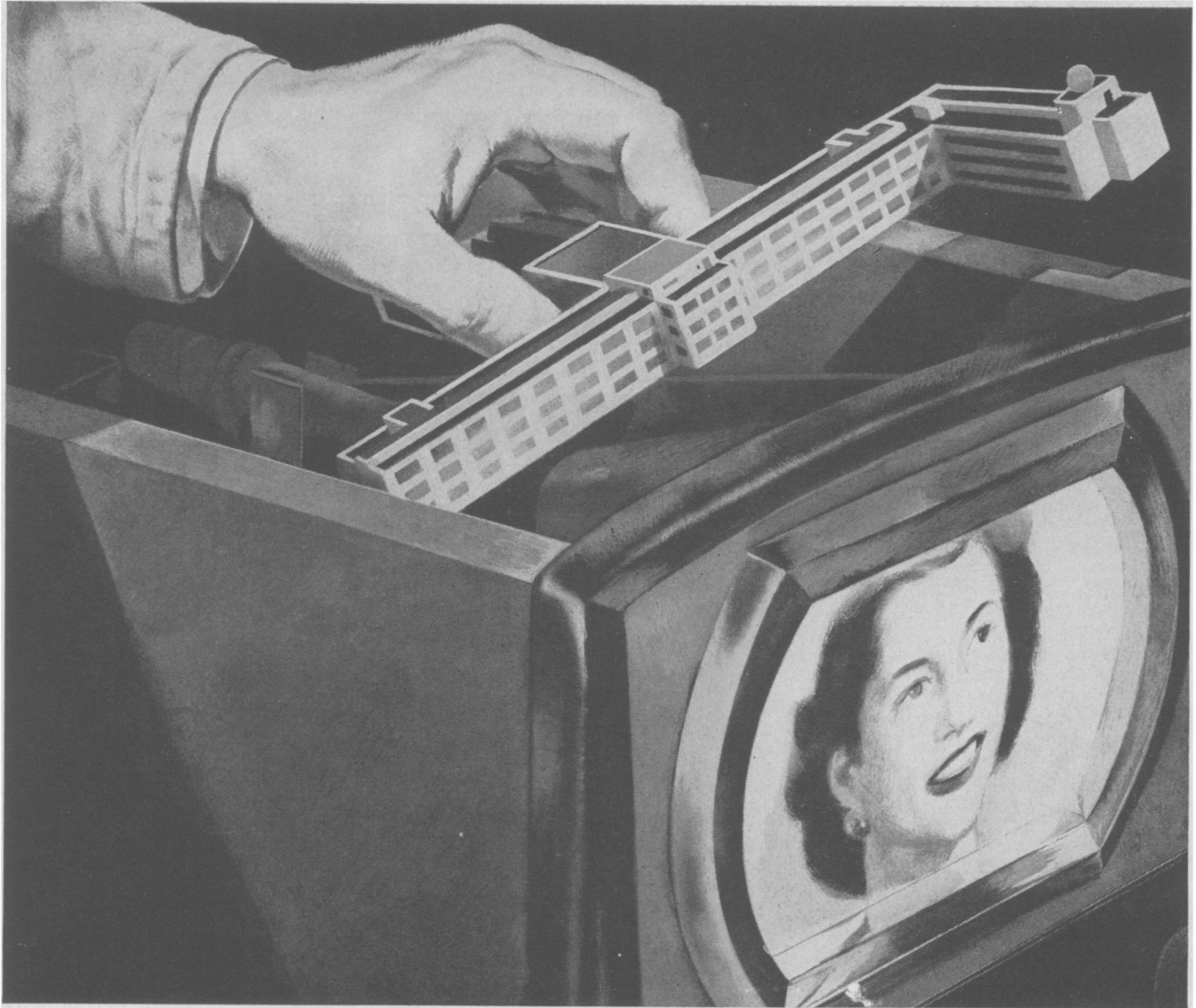
## Eclipse in Gale

See Page 21

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Basic research at RCA Laboratories has led to most of today's all-electronic television advances.

## *At the heart of every television set!*

**Why** show RCA Laboratories *inside* your television receiver? Because almost every advance leading to all-electronic TV was pioneered by the scientists and research men of this institution.

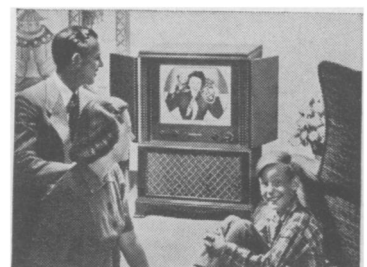
The supersensitive image orthicon television camera was brought to its present perfection at RCA Laboratories. The kinescope, in these laboratories, became the mass-produced electron tube on the face of which you see television pictures. New sound systems, better microphones — even

the phosphors which light your TV screen — first reached practical perfection here.

Most important of all, the great bulk of these advances have been made available to the television industry. If you've ever seen a television picture, you've seen RCA Laboratories at work.

\*

*See the latest wonders of radio, television, and electronics at RCA Exhibition Hall, 36 West 49th St., N. Y. Admission is free. Radio Corporation of America, RCA Building, Radio City, New York 20, New York.*



Through research from RCA Laboratories, today's RCA Victor television receivers are the finest example of electronic engineering.



**RADIO CORPORATION of AMERICA**

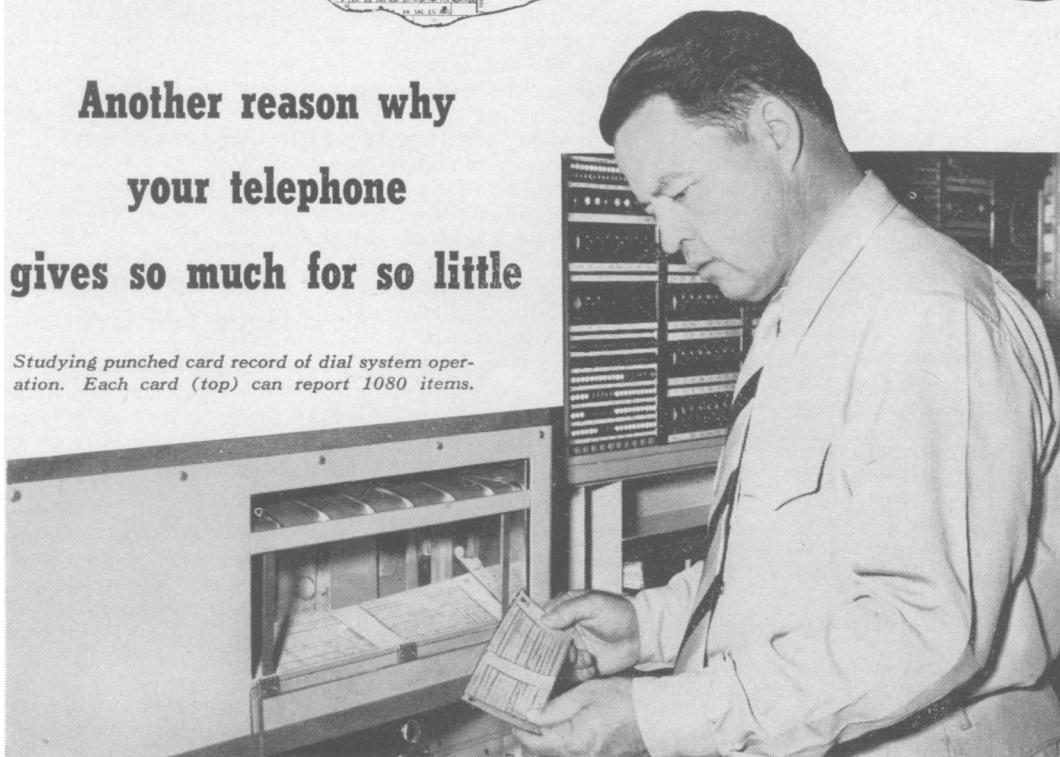
*World Leader in Radio — First in Television*



NO. 5 CROSSBAR SYSTEM TROUBLE RECORDER CARD		NO. 5 CROSSBAR SYSTEM TROUBLE RECORDER CARD	
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193	194	195	196
197	198	199	200

**Another reason why  
your telephone  
gives so much for so little**

*Studying punched card record of dial system operation. Each card (top) can report 1080 items.*



In a large, modern dial telephone office, 2,000,000 switch contacts await the orders of your dial—and 10,000 of them may be needed to clear a path for your voice when you make a single telephone call. Within this maze of signal paths, faults—though infrequent—must be detected and fixed before they can impair telephone service.

The latest system developed by Bell Telephone Laboratories automatically detects its own faults, detours calls around them without delay—then makes out a “written” report on what happened.

The fault may be a broken wire, or a high resistance caused by specks of dirt on switch contacts. In a second, the trouble recorder punches out a card, noting the circuits involved and the stage in the switching where the fault appeared.

Maintenance men examine the reports at intervals and learn what needs attention. Between times they go about their own duties in keeping service moving.

This is another example of how research at Bell Laboratories helps your telephone serve you at top efficiency—and low cost.



**BELL TELEPHONE LABORATORIES**

*WORKING CONTINUALLY TO KEEP YOUR TELEPHONE SERVICE BIG IN VALUE AND LOW IN COST.*