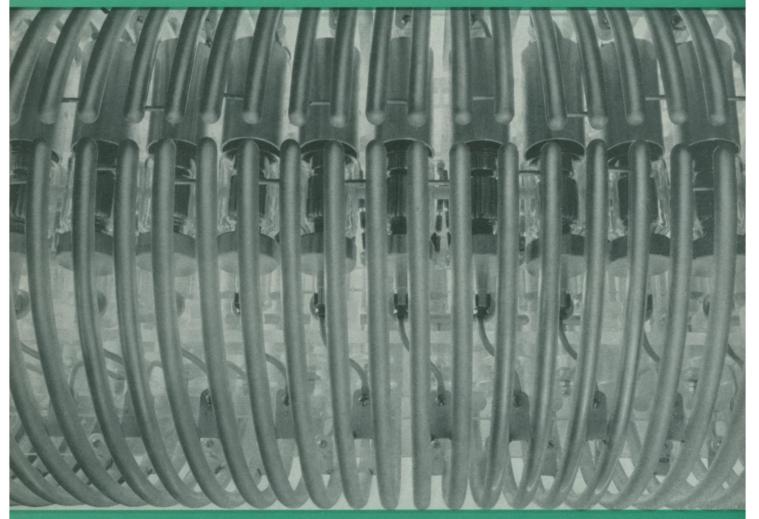# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE

Accelerator Rings
See Page 27

A SCIENCE SERVICE PUBLICATION

PIONEERING

AT BELL TELEPHONE LABORATORIES

In such an open field as this Dr. Karl Jansky of Bell Laboratories opened the way to radio astronomy. His search for a mysterious source of radio noise led him—and us—to the stars for our answer.

Today Bell scientists continue their pioneering in many fields—among them the transmission of human voices on beams of coherent light. Bell Laboratories' revolutionary Optical Maser foreshadows the use of light as a whole new medium of telephone, TV and data communications.

These are but two of the many fundamental advances which have come from breaking fresh ground at the world center of communications research and development.

20,000 GOOD CHARACTERS PER SECOND

EACH CHARACTER ON THIS PAGE WAS DRAWN INDIVIDU-
ALLY IN ITS PROPER PLACE BY A BEAM OF ELECTRONS
AND PHOTOGRAPHED IN 50 MICROSECONDS. A MAGNET-
IC TAPE GAVE THE COMMANDS. THE BEAM WAS TAUGHT
HOW TO DRAW BY A PHOTOGRAPHIC DEVICE. FOR NEAT
COLUMN EDGES THE COPYWRITER WAS TOLD TO EXPRESS
WHATEVER NEEDED TO BE EXPRESSED IN LINES OF EX-
ACTLY 47 CHARACTERS AND SPACES. A MERE TOUR DE
FORCE, OF COURSE, BUT IT SERVES AS AN INTRODUC-
TION TO THE DACOM SYSTEM OF GETTING ALONG IN AN
AGE THAT WANTS TO DANCE TO THE TUNE OF THE COM-
PUTING MACHINE.

WITH THE DACOM SYSTEM WE PUT THE TUNE INTO A
BETTER TEMPO FOR HUMANS TO DANCE TO. COMPUTERS
PLAY INHUMAN LYRICS TOO FAST. AMONG THE TRANS-
LATING DEVICES NOW AVAILABLE, A FEW OFFER PROS-
PECT OF ADEQUATE SPEED. BUT SPEED ALONE IS NOT
THE WHOLE PROBLEM. THERE ALSO ARISES THE PROB-
LEM OF COPING WITH ALL THE PAPER GENERATED FROM
THE TRANSLATING DEVICE.

THE DACOM SYSTEM HOLDS OFF ON THE GENERATING
OF PAPER AT THIS STAGE. THE OUTPUT OF THE COM-
PUTER GOES DIRECTLY ON MICROFILM. MICROFILM IS
THE PERFECT MEDIUM FOR MASSIVE DETAIL. WE SUG-
GEST THAT PAPER NEED COME IN ONLY AT THE END OF
THE LINE, WHEN A HUMAN DECISION-MAKER CAN REACH
A DECISION AFTER LOOKING AT A FEW SHEETS OF IT.

THIS IS THE HEART OF THE MICROFILM APPROACH.
NOW DACOM MICROFILM BRIDGES THE GAP BETWEEN THE
CAPABILITIES OF THE ELECTRONIC COMPUTER AND THE
VIRTUES OF THE OLD BOOKKEEPER ON THE HIGH STOOL
WITH GREEN EYESHADE AND BEAUTIFUL PENMANSHIP.

WE HOPE YOU AGREE THAT THE DACOM PENMANSHIP,
AS YOU READ IT HERE MAGNIFIED FROM A TINY FRAME

OF 16MM MICROFILM, IS OF A QUALITY THAT EVEN AN
EXTRAORDINARILY CONSERVATIVE FISCAL INSTITUTION
MIGHT UNHESITATINGLY USE IN COMMUNICATIONS WITH
IMPORTANT CLIENTS. SHOULD THE CLIENT DESIRE TO
SEE MORE THAN THE SUMMARY OF HIS POSITION, SUP-
PORTING DETAILS IN THEIR FULL COMPLEXITY CAN BE
PRESENTED FOR HIS INSPECTION SIMILARLY ENLARGED
FROM THE MICROFILM RECORD.

OUR SUBSIDIARY, RECORDAK, HAS WORKED OUT ALL
MANNER OF SCHEMES FOR ALL SORTS OF ENTERPRISES,
WITH OR WITHOUT ELECTRONIC COMPUTERS, TO PERMIT
SUPPORTING DATA TO BE KEPT ON MICROFILM INSTEAD
OF CLUTTERING UP THE CHANNELS OF COMMUNICATION.
TO THE RECORDAK ARMAMENTARIUM IS NOW ADDED THIS
NEW TOOL. WITH THE COMPUTERS RAPIDLY EXTENDING
THEIR SWAY OVER THE BUSINESS WORLD, OFFICE WORK
MORE AND MORE WILL CONSIST OF LOOKING UP INFOR-
MATION FROM QUICK-ACCESS MICROFILM READERS SUCH
AS RECORDAK ALREADY MARKETS. FOR EFFICIENCY IT
BEATS PAPER-SHUFFLING.

THE PRESENT DACOM SYSTEM UTTERS ONLY ENGLISH
LETTERS--NO FOREIGN ACCENT MARKS AS YET--, ARA-
BIC NUMERALS, AND $ ¢ / , % - $ * & * . PLUS ×,
A CUTE LITTLE CHARACTER OF UNSPECIFIED SIGNIFI-
CANCE. THE NEXT GENERATION OF DACOM EQUIPMENT,
AS THEY SAY IN THE MISSILE TRADE-- WILL BE ABLE
TO PLOT POINTS FROM TAPED DATA, 2500 POINTS PER
SECOND, VERY CLOSE, VERY LINEAR, QUITE REPEATA-
BLY. TO SAY MORE AT PRESENT HERE WOULD BE PRE-
MATURE.

SHOULD ANY OF THIS APPEAR TO BE PERTINENT
TO YOUR INTERESTS, IT CAN BE PURSUED FUR-
THER WITH RECORDAK, 415 MADISON AVE., NEW
YORK 17, N.Y.