entists measured the apparent location of the point sources of sound in people's mouths and came up with the tentative conclusion that the sound of "f," for instance, comes from only one-twentieth of an inch behind the lips. But the "ng" sound comes from farthest back—one and one-tenth inches behind your lips.

They made the measurements because certain microphones discriminate against sound from a distant source with respect to sound from a close source.

In all, 38 standard sounds—each ranging over 18 frequency bands—were measured. It was found that the unvoiced consonants like "f," "k," "p," "h" and "t" come from closest behind the lips; vowels are mostly in the middle, from a half to three-quarters of an inch back; and semi-vowels, like "a" as in pan and "o" as in pole are farthest back.

"Ng" seems to be an exception to all the rules. It is farthest back but, instead of retreating into the mouth as the frequency of the sound rises, as most other sounds, it gets closer to the lips.

According to the data in this study, the sound of "Truman" comes from a greater area in your mouth than the sound of "Dewey."

The scientists are Mones E. Hawley and H. H. Kettler of the government sound engineering section of RCA's Victor Division. Their study was published in the JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA (June 6).

Science News Letter, July 15, 1950

MATHEMATICS-ENGINEERING

Giant Brains Shrink

➤ "GIANT brains" are shrinking in size but not in efficiency. The newer complicated electronic computers, that solve mathematical problems in seconds that otherwise might take weeks or months, require less space and cost less money.

One of the newest, office-size, "tests" equipment even before models are made. It is the REAC. Spelled out, it is the Reeves Electronic Analog Computer.

It was developed by Claude Neon, Inc., in its research center, the Reeves Instrument Corporation. Harry D. Belock is the inventor. It is an outgrowth of U. S. Navy guided missile work and, while relatively new, is already in production and in use in aircraft and other laboratories.

The role of the REAC in industry and science, ranging from aircraft to television, is that it makes economically feasible the solution to a wide range of the most intricate mathematical problems. In the automotive field it solves problems with respect to internal combustion engines in performance, ignition and carburetor development work and improvements in a car's riding ability.

In engineering it computes problems with respect to bridge vibrations, stress analyses and many other matters.

The REAC specialty is solving what mathematicians know as differential equations. The equations used usually describe the motion of a body in space, motion of the links in a mechanism, and the like, as a function of time. Their solution results in an accurate picture of the particular dynamic motion under a desired variety of conditions.

The standard REAC, in appearance, looks like any conventional type of telephone switch board. It consists of a computer unit, a servomechanism unit, a recording unit and an associated power supply. Equations are plugged into the board. This simple method facilitates changing equations and adjusting computations until the desired design change is produced on the plotting board.

Science News Letter, July 15, 1950

Question Box

CHEMISTRY

What is the magic potion for modern cooks? p. 42.

MEDICINE

How can suicides from sleeping tablets be prevented? p. 40.

How can the blind see? p. 37.

PHYSICS

How can stars send signals from the sky? p. 44.

PHYSICS-CHEMISTRY

How can atoms take a picture? p. 38.

PHYSIOLOGY

What animal carries its own vitamin factory? p. 41.

PSYCHOLOGY

How can a mother prevent her son from being a "southpaw?" p. 38.

Photographs: Cover, U. S. Army; p. 35, National Advisory Committee for Aeronautics; p. 39, U. S. Army; p. 48, Bell Telephone Laboratories.

● RADIO

Saturday, July 22, 1950, 3:15 p.m., EDST

"Adventures in Science" with Watson Davis, Director of Science Service, over Columbia Broadcasting System.

Mr. Davis will continue his discussion "Our Atomic Future."

SCIENCE NEWS LETTER

VOL. 58 JULY 15, 1950 No. 3

45,600 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W. Washington 6, D. C., NOrth 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., $5.50; 2 yrs., $10.00; 3 yrs., $14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., PEnnsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAte 4439.