

PHYSICS

Broadcasting's Prototype

Quotation from *EXPLORING LIFE*—The Autobiography of Thomas A. Watson. New York, D. Appleton and Company. Mr. Watson was Bell's assistant in the early work with the telephone.

Bell gave three lectures on his invention at Music Hall, Boston, to large audiences, and after that three lectures at Chickering Hall, New York, and others in most of the large cities of New England. They were all given in the spring and summer of 1877. They interfered with our laboratory work, but the use of the telephone in connection with the lectures was an important help in its development as a practical working instrument.

I played an important part in Bell's lectures although I was always invisible to his audiences, being stationed every evening at the distant end of a telegraph wire connecting with the hall, having in my charge apparatus to generate the various telephonic phenomena Bell needed to illustrate his lectures. I had at my end of the line one of our loudest telephones especially adapted for the purpose, an electric organ on the principle of Bell's harmonic telegraph, a cornet player and sometimes a small brass band. But I was the star illustrator of Bell's lectures. My function was to prove to the audience that the telephone could really talk, for which my two years of shouting into telephones of all sizes and shapes had fitted me admirably as it had developed in me a vocal power approximating that of a steam organ in a circus parade. I also had to do something else of importance for Bell's audiences, called by courtesy, singing.

Professor Bell had by his side on the stage a telephone of the big box variety we used at that time, and three or four others of the same type were suspended about the hall, all connected by means of a hired telegraph wire with the place where I was stationed, from five to twenty-five miles away. During the first part of his lecture Bell gave his audience the commonplace parts of the show, organ playing, cornet music, brass band, etc., and then came the thrillers of the evening—my shouts and songs. I shouted such sentences as, "Good evening," "How do you do?" "What do you think of the telephone?" which the audience could hear, although the words issued from the mouthpiece rather badly blurred by the defective talking powers of the telephones of that date. When I would sing the only songs I knew. They were, "Hold the Fort," "Pull for the Shore"

(I got these from Moody and Sankey who had just come to this country), "Yankee Doodle," "Auld Lang Syne," and a sentimental song I had learned somewhere called, "Do Not Trust Him, Gentle Lady." My singing was always a hit. The telephone obscured its defects and gave it a mystic touch. After each of my songs I would listen at my telephone for further directions from the lecturer and always felt the thrill of the artist when I heard the applause that showed me how much the audience appreciated my efforts. I was usually encored to the limit of my repertory.

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AVIATION

Aerial Travel

Quotation from *TRANSPORT AVIATION*. By Archibald Black. New York, Simmons-Boardman.

Air transport lines are not quite out of the experimental stage, although several years have passed since the first was initiated. So far as commercial *operating* experience is concerned it is true that the airplane and airship are far from being experiments. With the business side, however, the story is quite different. Few airlines in the world are actually paying their way and operations are continued usually through the assistance of heavy subsidies. This would be most discouraging were it not that traffic is growing, deficits are decreasing and indications are pointing steadily to elimination of artificial support in the near future.

It has been demonstrated thoroughly that the success of air transport depends as much upon education of the public to its use as upon its technical perfection. Strictly speaking, there is no "demand" for air transport. This, however, is no cause for discouragement; as C. M. Manly very aptly put it, there was no demand for bathtubs a couple of generations ago. As will be pointed out in later chapters, aircraft possess certain elements which are valuable in transportation. The attainment of success depends upon educating the public to their use. This is a slow process but one which is proceeding as rapidly as can be expected and the results are encouraging if the problem is appreciated.

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Synthetic rubber which lacks elasticity can be used for hard rubber compounds and for cable insulation.

The planet Mercury always keeps the same face to the sun, making one side hot and the other extremely cold.

First Glances at New Books

THE AMERICAN COLLEGE AND ITS RULERS. By J. E. Kirkpatrick. New York. New Republic. \$1.

Caustic criticism of collegiate administration under "Captains of Eru-dition" by the hero or victim of the "Washburn College Case." Author advocates a commission form of government as the next step toward democratizing college control.

THE JOURNAL OF PREVENTIVE MEDICINE, Vol. I, No. 1. Edited by Edwin O. Jordan. Chicago. The John McCormick Institute for Infectious Diseases. \$5.00 a year.

A new journal covering that section of medicine which holds that prevention is better than cure. Papers in the first number range from the inoculation of infants against tuberculosis to methods of preventing outbreaks of botulism.

THE CONVERSION OF COAL INTO OILS. By Dr. Franz Fisher. New York. D. Van Nostrand Co. \$8.00.

This is the only complete account in English of the remarkable researches on synthetic petroleum now being developed in Germany. Professor Fischer is coming to this country to attend the International Conference on Bituminous Coal at the Carnegie Institute of Technology, Pittsburgh, November 15-19, where he will tell of the work that has been done under his directorship at the Kaiser Wilhelm Institute for Coal Research at Muelheim-Ruhr.

BIRD'S EYE VIEW OF INVENTION. By A. Frederick Collins. New York. Thomas Y. Crowell Co. \$2.00.

An ambitious attempt to compress into 298 pages accounts of all the devices man has invented to make life easier since he first drove a stick in the ground to measure time by the shadow. A useful reference book covering a complex range of subjects written in simple understandable language.

GRANDMA'S GAME OF KNOTS AND WHYS OF SCIENCE. By Emma M. Griebel. Springfield, Mass. Milton Bradley Co.

A game of questions and answers pertaining to every day applications of elementary principles of physics and chemistry.

In 1717 snow fell to a depth of 10 to 20 feet in New England.

There can be no life on the moon, because it lacks moisture and air.

