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MOON-RADIO PREDICTED IN 1927

READERS of the Gernsback publications will not be too surprised to hear of radio-radar contacts with the moon, since such communication was accurately predicted 19 years ago in an article by Hugo Gernsback, entitled: "Can We Radio the Planets?", and published by him in his former magazine, *Radio News*, February, 1927.

The article foretold exactly the results

now had by the Army Signal Corps scientists. An illustration pictured a radio transmitter on the earth with the moon overhead and the reflected radio beam coming back. At each side of the earth an observer was shown monitoring the transmitter and received waves, with a clock indicating two and a half seconds elapsed time between the outgoing and incoming signal.

"Can We Radio the Planets?" Mr. Gernsback stated, does not necessarily mean that the author has attempted in this article to design apparatus to transmit and receive intelligence to and from other worlds, although such a possibility is discussed. Rather he brings forth an entirely new point, suggesting seriously—by means of the beam system—to send and receive back the same beam,



Illustration from Feb. 1927 issue Radio News.

Gernsback's 1927 proposal was to erect a powerful short-wave transmitter at some point on the globe, with the receiver at its antipodes. Note exact time (2½ seconds) predicted in article written 19 years ago.

for scientific research work, as well as explore our own planet for scientific purposes. He also recognized that to accomplish the feat, short waves would have to be used. The article stated:

"I am fully aware of the criticism that will at once be raised, that it is not possible for us to send a radio beam beyond the confines of our own atmosphere, due to the so-called Heaviside layer, which is supposed to exist a hundred or so miles above the surface of the earth. According to the researches of the eminent scientist, Oliver Heaviside, the upper layers of our atmosphere are so conductive electrically, due to the ionizing effect existing at such heights, that the radio waves are reflected; and it would thus seem impossible that we could shoot a radio beam outside of the confines of the earth.

"This may be perfectly true when it comes to the usual radio waves, such as have been used in the past, varying from some 15 meters up to 25,000 meters. I am equally certain that at lower wavelengths, say from two meters downwards (Note: The Signal Corps scientists actually used wavelengths in the order of two meters, namely 111.6 megacycles), entirely different conditions appear, for the following reasons:

"We know that radio waves are an electro-magnetic activity, the same as light waves or heat waves. It is believed that, the lower down we go in the wavelength scale (that is, the higher the frequency), the easier it becomes to penetrate the Heaviside layer, if we grant its existence at all.

"Radio waves travel at the rate of, roughly, 186,000 miles each second. If observers at opposite sides of the earth were using chronometers, and if a signal were sent from one side at a certain time, the signal going out to the moon and reflected from it would be found to return to the earth in a little more than two and a half seconds. This would afford, therefore, a complete proof of the theory."

COMMENTS ON 1927 PREDICTION

FROM THE FATHER OF RADIO

Mr. Hugo Gernsback
25 West Broadway
New York, N. Y.

I have read with keen interest your ingenious suggestions, made nineteen years ago, of using then-existing means for transmitting ultra-short wave energy to the moon and receiving its reflected signal. In view of the recent actual realization of such transmission by U. S. Army radar your early suggestion assumes startling importance.

Here again is one more amazing instance of the numerous articles written by you in the past, foreseeing, suggesting or prophesying revolutionary advances in the radio or electronic arts. I venture to say that during the ensuing 50 years many more instances of the sort will be recorded to your credit and far-seeing prescience.

The youth of today, interested in the revolutionary progress of science, as most of these must be in view of the war's astonishing developments, should be stimulated by this early and accurate prediction of yours, stimulated to look keenly into Nature and Science, to foresee some of the infinite possibilities there concealed.

(Dr.) Lee de Forest

FROM THE PRESIDENT OF RCA

Mr. Hugo Gernsback
25 West Broadway
New York, N. Y.

It has been interesting to observe your pre-

diction made nineteen years ago of interplanetary radio communication, especially in the light of the fact that a radar signal was recently beamed to the moon and its echo received.

Long-range forecasts in the field of science, although at the time may appear fantastic, often serve as an inspiration and a goal for imaginative young people with an aptitude for science.

Your predictions in wireless and electronics have no doubt awakened ideas in youthful experimenters, and if they have found encouragement in your visionary writings you should be as happy as a teacher who inspires pioneering achievement.

(General) David Sarnoff

FROM THE PRESIDENT OF I.R.E.

Mr. Hugo Gernsback
25 West Broadway
New York, N. Y.

Thanks for your letter of January twenty-eighth and for the very interesting enclosures which came with it.

I know from a small amount of personal experience that one of the very pleasant things in life is to be able to look back to a prediction made years ago and point to the fact that it has come true.

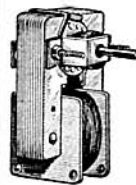
You are certainly to be congratulated for having done this in the article of February, 1927.

F. B. Llewellyn

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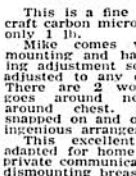
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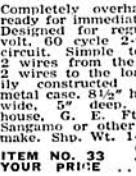
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