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Radiotorial Comment

AN interesting comment on the changes that radio has caused in the habits of the American people may be gleaned from the report of the Rate Research Committee of the National Electric Light Association. This committee ascribes to radio listening an increased use of electric current for lighting the home. They find that not only does Mr. Average Householder stay at home to hear the radio, but also that he stays up later than was his wont. This report may give additional incentive for power company experiments on broadcasting concerts over their lines by "wired wireless."

THE suit brought against radio station WOR at Newark, N. J., by the American Society of Composers, Authors and Publishers for broadcasting copyrighted music brings to a head and possible judicial decision a question that has been agitating the broadcast world for many months. This is the first gun in a campaign whereby the Society plans to compel each of the broadcasters to pay a large annual license fee for the privilege of broadcasting music whose title is vested in the Society. This includes nearly ninety per cent of the popular music of the day.

Most of the broadcasters contend that as they are not broadcasting for direct profit they are not infringing upon the copyright. They believe that the requested fees are exorbitant and add an impossible burden to the present high cost of putting out programs. Furthermore they know that broadcasting is the most effective means yet found for quickly popularizing new music and they feel that they might better be paid rather than charged for the service they are rendering the Society's members.

Foreseeing a probable delay in deciding the question and realizing the tremendous power of broadcasting, a number of stations have organized the National Association of Broadcasters. This association will assist in the proposed revision of the copyright law and encourage constructive legislation helpful to broadcasting. It has established a music bureau in charge of a competent musical critic who has already passed upon hundreds of musical compositions whose copyright title is vested in the Association. From this source the broadcasters are assured a continuous supply of copyrighted popular music of superior quality without payment of license or legal embarrassment.

This is neither the time nor place for us to air our views as to which side may be right in the controversy. Suffice it to say that our sympathies are with the broadcasters' association. They seem to have taken a sensible stand in fighting fire with fire.

WHEN the Einstein theory states that the ether is no longer a tenable hypothesis for explaining the nature and action of electromagnetic waves, and consequently of radio, it is like taking away a crutch from our halting imagination. The controversy is still raging too fiercely between eminent scientists for any mere layman to say which side is in the right, but the preponderance of recent evidence would seem to favor the Einstein camp. Therefore it is of interest and value to the inquiring amateur to know what relativity substitutes for the discredited ether.

For the ether has been discredited by the theory of relativity. Not that the theory has definitely and finally disproved the existence of the ether, but merely that Einstein finds the ether unnecessary to explain many things which heretofore could be explained only by its aid. And the Einstein explanations are perhaps more logical and more acceptable than the ether explanations. So, while the crutch may still be kept around the house in some obscure corner, the patient—and he indeed must be patient who would understand this theory—can get along all right without using the crutch.

Perhaps one of the simplest expositions of this complex subject has been given by Charles P. Steinmetz, who is an ardent advocate of relativity. He points out that the radio wave is not a wave *motion* in a material medium but is a periodic alternation of an electromagnetic energy field which travels through space at a speed of 186,000 miles per second. He makes clear the fact that the picture of a wireless wave as resembling a water wave is erroneous in that electromagnetic energy may alternate in intensity and direction without the necessity of the movement of matter or anything resembling it.

This conception of a field of energy is very like the field of force whereby Faraday originally explained the action of a magnet on an iron bar. It holds fast to the wave theory of light and radiation. It eliminates the necessity of accepting the contradictions involved in the ether theory and in its place gives a logical explanation of the forces of nature.

The general acceptance of this theory will require the revision of almost all the books and treatises on radio. It does not alter in any way the practical operation of a radio set. But to the thoughtful student it gives an understanding of many hitherto inexplicable natural phenomena. For this reason it is worth careful study and consideration. If there is sufficient demand on the part of our readers for a simple explanation of the entire theory and its deductions the editor will undertake the task in a future issue.