

curvature but shoot straight out into space. Hence, the experimenters have so far, not been able to send messages more than twenty miles. Therefore another invention is in order. As a matter of fact, the experimenters expect to be occupied at least several years on the problem—but it is comforting to know they have found the right track!

The question of fading has not yet passed out of the limbo of unsolved problems. A thorough understanding of the question, however, has been arrived at and will undoubtedly pave the way for future solution. Here is the “why” of fading: Fading simply refers to a fluctuation in the intensity of signals. At 200 miles distance it becomes a real obstacle to enjoyment. Further, every radio fan knows that concerts, etc., “come in” better at night than in the daytime. This is due to a sort of electrical screen produced by the sun and confining radio waves to a low level where more obstructions are met with. In the night time, the waves apparently slide along an upper strata of air which is permanently a good conductor.

Hence very low wave lengths travel further at night. But this upper strata of air is not quite so obliging as it sounds. In fact, the motion of the wave over its surface might be said to be more like the motion of a small boat on a stormy sea. While riding on the crest of seacombers radio carries its messages beautifully, but when submerged in the trough of some particularly malicious wave, even radio cannot be expected to make itself heard. Additional discoveries in regard to fading have demonstrated that it varies directly with the distance.

In spite of the fact that fading is as yet an unsolved problem, it must not be forgotten that every addition to the efficiency of the radio, increases its ability to capture and transmit to you, intact, the messages of the air. Hence, while we do not, as yet, know how to rescue the poor little radio message from its stormy ride, we may so greatly improve the receiving capacity of our instruments that perhaps, in time, the faintest wail of the tempest-tossed song or story will reach us. And the newly-discovered attachments and improvements for your radio are as many as the sands of the sea. There is, for instance, a new gaseous rectifier, that will perform a multitude of