

EYE MOVEMENT UNDER δ AND ω

(Research Work Combining Syntonics and Motion Picture Photography)

By

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In my talk to you today I shall try to explain the research that I have done with Syntonics and Ophthalmography. (Motion picture recording of eye movements.) There has been considerable discussion in the part on the effect of δ and ω upon coordination. Not only upon coordination of the eyes, but of the body as a whole.

Last year Dr. Melvin of Omaha made some interesting experiments showing the effect that certain frequencies have upon the coordination of the handwriting. He demonstrated that the writing of the individual changed considerably after exposure to ω for specific time. The results were that an obvious lack of coordination developed after an application of the light. In other words the writing became scrawled like, and disjointed instead of the normal swing, which was absent.

It was with this thought in mind that prompted this research to demonstrate the effect upon the eye movements with a similar type of light. However, it was difficult to show that the effect of these frequencies upon the eye movements until we sought the aid of motion picture photography. There have been previous tests which have shown the effect on pupillary reaction, but more to my knowledge on eye movements, - that is, muscular movements of the eyes.

The lights we employed were the frequencies known as δ and ω , δ being the low and ω the high frequency light. It is a well established fact that δ is a stimulant and ω a depressant. We chose these two opposites to show as clearly as possible their effects upon the reading cycle.

The instruments that were employed were the A. O. Company Ophthalmograph and the syntonizer. We owe a great deal of thanks to the invention of these two instruments because without them the research would not have been possible. The ophthalmograph is a motion picture eye camera and takes a delicate record on 35 mm. standard motion picture film of eye movements during the act of reading. The closest analogy to the instrument is the electrocardiograph which takes recordings of the heart cycle and which reveals intricacies that otherwise would be impossible to detect.

The filming of the candidates for this research was not a difficult task but a pain staking one. Before exposure to one of these two lights we carefully took an eye graph of each one of them, and then after exposure for 12 minutes and a subsequent rest for 10 minutes, we filmed then again. This was done on a series of students. We first used the δ light and compared results and then used on subsequent days the ω light and similarly watched the results. We nascentized in all cases using Local throughout the 3 minutes.

The result of the exposures to these frequencies were much as we might have expected from knowing the results of the handwriting experiments. When the δ light was employed we found in most cases that the reading speed had been increased. There was better coordination. The regressions, that is, back stops in eye movements while reading are considerably reduced, and likewise a lessening of the faulty eye movements. There seemed to be evidence of less strain.

In the employment of the ω light the results were nearly opposite. The reading speed was slower; regression had increased slightly; faulty eye movements were more noticeable and there was evidence of stress and strain while reading.

The lasting effect of these lights were of peculiar interest to me. For several days the effect lasted. Many of the students said that their eyes felt so quick and snappy so to speak, after exposure to the δ light. It was most agreeable to them. However, quite the contrast in the case of the ω light was the result. Most of them said that their eyes felt sluggish, and that there was an actual effort to read. Much like the effort of dragging an anchor so they described it. The eyes just seemed to stick on words at times. It took several days or more for the ω effect to even wear off so that normal reading could be resumed.

In conclusion I should say that this work on light will lead us to greater knowledge of the effect on eye movements and can be put to practical use immediately. Take for example the pitiful nystagmus cases. In such cases as these ω or a combination of ν and ω is a God-send. I have a film of a case of nystagmus before and after a series of 12 syntonizations. This light reduced the major undulations and lessened the movement of the minor oscillations. Such practical application to this research is gratifying to be sure. The pure science of today is the applied science of tomorrow. This was a statement quoted from the General Electric Research Laboratory. Nevertheless I believe that we shall all want to live another 20 years if for no other reason than for curiosity's sake alone.

N. BB. Due to some accident of filing or mailing we are unable to secure the ophthalmographs from Dr. Youngdahl for inclusion with this paper. We are indeed sorry that these ophthalmographs could not be included herewith. However, there is this saving thought, those of you who were at the assembly at Dayton when Dr. Youngdahl read his paper will recall the marked changes in "graphs" before and after the use of the Syntonic frequency. Also you will recall the nystagmus "graph".

All of which says, YOU MISS SOMETHING IF YOU DO NOT ATTEND ASSEMBLES.