

THE SYNTONIC TECHNIC OF OPTOMETRY

By Dr. Harry Riley Spittler (October 1933)

This article is in the form of a letter, slightly abridged, from Dr. H. Riley Spittler of Eaton, Ohio, in answer to a rather uncomplimentary reference to "Optometric Syntonics" made in an editorial, "Mere Optometrist," appearing in the September 1933 issue of The Western Optical World. Dr. Spittler is a polished gentleman, an able writer, big chief in Syntonics and an expert propagandist. The article is well worth reading. We might find no fault with Syntonics if it were properly catalogued and advanced simply as a technic in Optometry. But its exponents, some at least, are not satisfied to have it so styled. They announce themselves as "Optometric Syntonics." Doctor Spittler says: "Syntonics will do as much or more for esophoria, asthenopia, pseudo-myopia, progressive myopia, certain types of opacities, low reserves, abnormal hook-up between accommodation and convergence, and other purely Optometric conditions, than any other single technic in Optometry." If this be so, then it is Optometry. Why not style it as in our caption?

As I go back in memory to a period five and ten years ago I recall that your journal has always been most fair in all positions it has taken relative to Optometry, its theories and practice as well as optometric organizations and their activities. As a consequence it came as somewhat of a disillusionment to read the paragraph from your editorial with reference to the Syntonic technic. I cannot help but feel that the information you had before writing this editorial must have come from some very biased source, and I admit that there are such sources, many of them "sour grapes."

You state that Webster defines Syntonics as a "system of wireless telegraphy." I have before me Webster's International Dictionary and careful research fails to show the word "Syntonics." The definitions appearing, however, clearly indicate that the word applies to "like frequencies," a process of tuning used in its broadest sense. This process is thought to be complete when the radiated energy is absorbed by the receptor.

A receptor may be defined as a device peculiarly adapted to receive and transform a given type of energy. There is no need for me to name the various types of mechanical receptors because they are too well known to require mention here. Suffice it to say that the human eye is a receptor peculiarly adapted to receive and transform a very narrow band of frequencies in the electro-magnetic spectrum, and undoubtedly to transmit to the brain the end result of such absorption and transmission. This band extends from approximately 8,000 A.U. in the lower range to 4,000 A.U. in the upper range. This is commonly known as the "visible range." But, light itself is not visible. This is another story and has no place in this letter. The Syntonic technic in Optometry deals solely by exclusion and wholly by inclusion with this range of frequencies.

This range of frequencies has never been used for "wireless telegraphy" except in the heliograph by the use of mirrors, and by Boy Scouts with flashlights, if such use can be called telegraphy.

I am firmly of the opinion that the optometrist is limited by professional history and law to the treatment of light *before* it enters the eyes of the patient, by refraction, absorption, dispersion, diffusion and perhaps polarization. I do not believe that electric modalities have any place in Optometry and I am on record to this effect, and have

been for several years in the paper read before the American Academy of Optometry at Omaha. To quote:

"The legal definition of optometry in most states does permit the use of electricity and electrical energy for therapeutic purposes on the eyes or elsewhere on the body, except by those duly licensed to do so. While the writer admits that he wrote the chapter on galvanism for optometrists for Dr. Kurtz's book, he now believes to have done so was of doubtful propriety and may cause some optometrist to run afoul the medical practice acts of his own state.

"The unquestionable present trend is toward broadening the practice of optometry, yet it seems imperative at this time to voice a strong protest against permitting individuals to undertake the use of certain possibly dangerous physical agencies, unless and until they have pursued a carefully prepared course of groundwork instruction. To merely tell an optometrist what to do is not enough. He must be taught why he does it and then only can he be safely permitted to dabble with energies as potent as some of our modern physical agents. This statement would be just as true in principle if every state in the union were to adopt liberalizing legislation with reference to optometry at the coming legislative sessions.

"At present, legally and by birthright, optometry consists of the proper preparation of light within the so-called visible range. Therein at present lies its field. And that field is so full of possibilities that the writer hardly knows just where to begin with a presentation of the subject. The anatomy of the brain and nervous system as they apply to the visual functions has already been presented by Dr. Wiseman, and you are presumed now to be well grounded in this subject for the purpose of this paper. It were sheer folly to attempt to supplement or to amplify what has already been said on that subject. In what follows an attempt will be made to utilize your present knowledge of the nerve tracts and connections involved, to present to you some factors which it is hoped will at least intrigue you into a further study along the lines suggested. Regardless of the apparent ramifications and ramblings which are to follow, you are cautioned to keep in mind this one fact, and that is, that any physiological reactions mentioned are obtainable by the use of light well within the so-called visible ranges, and that all applications were made through the eyes.

"The question as to just what constitutes light, vision, seeing and like relative terms may be and is one to be decided by the physicist, the physiologist or the psychologist depending upon just what idea is meant to be conveyed by the word in each case. Regardless of the respective decisions we must admit that physics cannot be ignored, neither can the anatomical paths of conduction, the reflexes involved or the final mental process be omitted, and retain the visual function. All must be considered."

It should now be perfectly clear that the Syntonic technic is a utilization of the reflexes which may be elicited by the use of selected light frequencies in the so-called visible range for the aid of vision and its associated functions.

In Syntonics positively no energy is used or applied to the eye other than that emitted by a special calibrated tungsten lamp, operated on the ordinary light circuit. Obviously the instrument is built around this lamp and has means for selecting the energy to be used and for interposing test objects, fixation objects, stereoscopic views, etc., between the patient's eyes and the light source. The device is also equipped to

turn the lights on and off periodically for the purpose of increasing the stimulus by permitting a partial dark adaptation during the intervals when the light is turned off. Many other optometric devices use tungsten lights in the lighting circuits and by no stretch of the imagination can they be said to be "optical accessories," used in the practice of Optometry. The Syntonizer is as purely an optical accessory as is the ophthalmoscope, retinoscope, myoculator, stereoscope or any orthoptic training device. In fact the Syntonizer can be used for many of these purposes for which some of these instruments are used and combines with them devices for the selection of specialized energy within the so-called visible range.

In passing it might be well to add that an understanding of Syntonic principles will enable the optometrist properly to prescribe tinted ophthalmic lenses so that adverse reflexes will not be elicited. This is not the case in the present haphazard method used in prescribing tints.

A gross mis-statement is also found in your editorial and that is in reference to A.O.A. trusteeship. The writer has not been a Trustee of the A.O.A. since the Grand Rapids convention.

Insofar as your reference to "the missing link in Optometry" is concerned. I am sure that only the future can be the determining factor.

Syntonics is being used in one optometric school and by optometrists in no less than seven states and numbers among its users a high percentage of members of State Board of Optometry who see in the technic a purely optometric procedure. If my memory serves me aright the "missing link" statement was made by a man who has been president of the State Board in his state for about twenty years. Incidentally, I never so characterized the technic. Almost twelve years were spent in developing the method to its present state. Hundreds of ocular, biologic and physiologic experiments have been performed, checked and rechecked, before the technic was ever shown or taught to another optometrist. Even now the technic is not perfect and may never reach perfection. Nevertheless it will do as much or more for esophoria, exophoria, squints, hyperphoria, amblyopia, asthenopia, pseudo-myopia, progressive myopia, certain types of opacities, low reserves, abnormal hook-up between accommodation and convergence and other purely optometric conditions, than any other *single technic in Optometry*. This sounds like pure bombast. Do not take my word for it. Ask those who use the technic.

It seems to be the lot of those who pioneer to have to endure a certain amount of adverse criticism. In fact, criticism should be invited. But, to be of value such criticism should be made only after a personal study of the subject rather than to be voiced on mere hearsay or biased prejudice. Of course, I am certain the latter had no part in your editorial.

I fear that I have tired you with this long letter, but since I believe your editorial was based purely upon hearsay from a possibly antagonistic interest, I deemed it best to undertake herein to present as clear a picture as possible.