J. Milton Johnston, Founder and Editor of the First Exclusively Optometric Periodical

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ABSTRACT

J. Milton Johnston (1844-1930) founded and edited a periodical titled The Johnston Eye Echo. The bi-monthly periodical was the first with content that was exclusively optometric. This article contains a brief biographical sketch and discusses the 1892 book, which compiled and expanded upon some of the material that Johnston published in the periodical.

KEYWORDS

Optometry books, optometry history, optometry periodicals

In 1891, Johnston changed the title of the periodical to Eye Light, and then in 1893 after discontinuing Eye Light, he published a periodical titled Our Vision. In 1892, Johnston left his brother’s company and started an optical company in Chicago. Another brother, Aaron, was associated with him for a while in that venture, so it was known as the J. M. and A. C. Johnston Optical Company. Another of Johnston’s endeavors was an optometry school, which he started in 1895. It is not clear how long it operated. In 1904, Johnston sold his optical company to F. A. Hardy, and it became known as Peerless Optical Company, with Johnston’s sons George and Paul in management positions.

John Milton Johnston was born in 1844 in western New York state. At 17 years of age, he volunteered for the Union Army during the Civil War and served in the Ohio Volunteer Infantry. After his Civil War service, he attended Adrian College in Adrian, Michigan, and then Northwestern University in Evanston, Illinois, from which he graduated in 1872. The title page of his book shows him having an A.M. degree.

Johnston spent nine years in the Methodist ministry before joining the Johnston Optical Company founded in 1876 in Detroit by his brother George. The company was prosperous and often adopted new technology. Johnston’s son Paul recalled that he first saw a telephone and electric light bulb there in the 1880s.

After joining his brother’s company, Johnston recognized that there were limited opportunities for those pursuing optometric knowledge and there was a need for a periodical devoted to optics as optometry was known then. The first issue of The Johnston Eye-Echo was the January-February 1886 issue. Johnston thought that the paradoxical use of a term associated with sound in the title of a periodical devoted to light and the eye “might arrest attention.” The periodical was published bi-monthly by Johnston’s brother’s optical company. Most issues consisted of four pages in a 14-inch by 10-inch format.

The subscription rate for The Johnston Eye-Echo was 50 cents per year. Anyone who made a purchase of five dollars from the Johnston Optical Company received it free of charge. In each issue, Johnston included lessons on optics and refraction, which he had written. Johnston said that he referred to them as lessons because of the “urgent need of instruction to raise up a generation of specialists equal to the demands of optometrical service.”

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From 1905 to 1923, Johnston was in optometry practice in Portage, Wisconsin. Soon after entering practice, he joined the Wisconsin Association of Opticians. The name of the organization reflects the fact that the terms optometry and optometrist were not yet in common usage. At Johnston’s urging, the association formed a committee on education. The association appointed him chair of the committee, and his work advanced the role of the association in the education of optometrists.2

Johnston published a 228-page book titled *Eye Studies: A Series of Lessons on Vision and Visual Tests* in 1892. It can be viewed as a textbook of the optometry of its time, with “lessons” on the basics of ocular anatomy, geometrical and ocular optics, presbyopia, refractive errors, strabismus, color deficiency, asthenopia, and construction of test types, with a concluding lesson containing 24 case reports. The contents of the book are from the lessons he wrote for the *Eye Echo* and *Eye Light*, with some additions. Johnston’s formal writing style and his high regard for vision are evident in these introductory statements: “Vision is the noblest of man’s senses. Imperial sweep and swiftness of glance and minute delicacy of construction make it a marvel of infinite skill.”8

In his discussion of prescribing for presbyopia, Johnston noted that the patient should be given the lowest plus that gives clear, comfortable vision at the preferred nearpoint distance. He stated that the power could be verified by subtracting the amplitude of accommodation from the dioptric value of half of the usual working distance.9 That formula is mathematically equivalent to the more recently recommended guideline of a plus add, which does not require patients to use more than half of their amplitudes of accommodation for prolonged near work.10

Johnston correctly stated that hyperopia and myopia were usually due to short and long ocular axial lengths, respectively.11 He said that myopia is “developed through the demands of civilization, demands for continuous work at short range or the reading distance;” and he discussed several studies correlating higher myopia prevalence with occupations and activities involving near work.12 For prevention of myopia, he recommended not holding reading material too close, using sunlight rather than artificial light, having school desks of proper construction, proper posture when reading, and sufficient rest for the eyes.13

Johnston noted the perceptual benefits of binocular vision, stating: “Larger advantages are secured by binocular vision that we are apt to suppose.”14 He did not present a procedure for binocular balance. In prescribing for anisometropia, he said: “The general rule already given for fitting eyes of unequal refraction is to fit each separately when this gives comfortable binocular vision, and when it does not, to fit the better or more used eye, upon which there will be chief dependence, and then vary the refraction of the lens before the other eye just enough to secure satisfactory binocular vision.”15

In the lesson on the construction of test types, Johnston stated: “The principle upon which they are constructed is that an object, in order to be visible to the normal eye, must be large enough to extend across an arc subtending 1 minute.”16 In the last lesson, cases of presbyopia, hyperopia, myopia, astigmatism and strabismus are presented. Concluding that chapter, Johnston said: “No examples of asthenopia are needed. Being the result of various malconditions, as previously explained, its correction is various, consisting generally of fitting the eyes properly, resting them, and restoring the system to normal health. Often the asthenopic person, especially if young or under forty, will be found to require simply a pair of weak spherical convex lenses for reading, called by some rest glasses.”17

An indication of the esteem colleagues had for Johnston can be seen in the frontispiece in William Bohne’s 1895 optometry textbook where Johnston is pictured as one of six leading figures in optics and optometry.18 An obituary described J. Milton Johnston as “a scholarly gentleman of broad culture and refinement,” and a man of “high ideals.” It suggested that because of his modesty, “full recognition of his most valuable work for optics and optometry was probably not extended so generally as its importance warranted.”2

REFERENCES