“A Textbook on Ophthalmology” by I.L. Bistis, Athens, 1908.

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**ABSTRACT:** In 1908, John L. Bistis wrote a textbook on Ophthalmology in order to provide the students of Medicine of his time with the appropriate material and facilitate his teaching. The book is divided in two parts. The first part refers to the direct and subjective eye examination and describes the methods and means used for this purpose. The second part refers to the eye anatomy and physiology, the symptoms and etiology of the diseases, as well as their prognosis and treatment. The diseases of conjunctiva, sclera and uvea are described and analyzed, the diseases of iris and ciliary body are defined and the surgical operations on iris are mentioned. Useful scientific information is provided about the diseases of choroid, of vitreous body, retina and the optic nerve. Glaucoma, eyelid and lacrymal apparatus diseases are extensively described as well as kinetic eye disorders and orbital diseases. The book concludes with the description of the refractive errors and the ocular adaptation disorders.

**Key Words:** Textbook ophthalmology 1809, Greece.

The book entitled “A textbook on Ophthalmology” has been written by I. L. Bistis who had obtained his PhD in the Vienna Medical School and had been an assistant professor in the National University of Athens. The book was printed in Athens in 1908, “Estia” Editions, K. Meisner and N. Kargadouris and is composed of a prologue, two main parts, a table of errata and a glossary. Each one of the two main parts is further, unequally divided in chapters. The first part is divided into two chapters while the second to sixteen.

**PROLOGUE**

The prologue of the book was written in Athens in January 1908. According to the author, this textbook was written first in order to fill a void in the educational material that would help the medical students especially on ophthalmologic issues and second to present the recent advances made on this medical field. The author tries, in his book, to prevent medical mistakes caused by ignorance and to introduce other medical fields, since ocular diseases are often associated with other diseases. He also emphasizes the need for the inspection of the eye fundus with the application of ophthalmoscopy. Bistis mentions that, this textbook was based on the work of his teacher Ernst Fuchs as well as on other works of German, French and English eminent authors.

**The first Part**

In the first chapter are described the methods used during direct eye examination. Various methods of eye examination are analyzed; especially the eye examination by the use of ophthalmoscope. The second chapter deals with the subjective eye examination which includes the examination of the central and peripheral vision and the light and colour perception.

**Second Part**

In the first chapter of the second part of the book, is described and analyzed the anatomy of the conjunctiva, its inflammations and other diseases. In all chapters and for every disease the symptomatology, the course, the etiology and the treatment are described.

In this chapter, the diseased conditions mentioned

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are: catarrhal conjunctivitis, acute gonorrheal conjunctivitis, trachoma conjunctivitis, skin rush and phlyctenular conjunctivitis, membranous conjunctivitis, infectious and spring conjunctivitis, conjunctiva amyloid, ocular tuberculosis, ulcers, injuries, pterygium, symblefaron, xerophthalmia (dry eye), chemosis, tumors and alterations of the canthus and the caruncle.

The second chapter contains the corneal anatomy and the objective symptomatology of its inflammations, which are purulent keratitis, non-purulent keratitis and various forms of keratitis of the eye fundus. Also, the rest of the corneal diseases are well addressed: corneal injuries, corneal opacity and ectasia.

In the third chapter are described the anatomy of the sclera and its diseases as well as the diseases of the eyeball. These disorders are scleral inflammations, eyeball’s injuries, scleromalacia, scleral ulcers and tumors. At the end of this chapter the author refers to the eyeball operations and the ophthalmic prosthesis.

The fourth chapter contains the uvea anatomy and physiology, describing the iris, the ciliary body, the choroid, the ocular blood supply, the physiology of the ocular pressure and the participation of the uvea in procedure of vision.

In the fifth chapter are analyzed similar subjects concerning the iris and ciliary body diseases; specifically the iris injuries, the iris tumors, the pupil disorders, the congenital iris abnormalities, the ciliary body inflammations, the injuries and tumors of the ciliary body and the sympathetic ophthalmia. Various iris operations are also mentioned.

In the sixth chapter the following diseases of the choroid are analyzed: inflammations detachment, rupture, tumors, tuberculosis and congenital abnormalities.

In the seventh chapter glaucoma’s manifestation has three forms: primary, secondary and hydropthalmos.

In the eighth chapter is presented the anatomy of the crystalline lens and its three basic diseases are examined: the “hypochyma” nowadays known as cataract, the lens subluxation and the lens tumors. The main forms of cataract are also analyzed.

The ninth chapter contains the anatomy of vitreous body along with its diseases, which are the vitreous opacity, the hemorrhage, the vitreous liquefaction, the foreign bodies impact, the cystikercos and the primary persistent vitreous.

The tenth chapter deals with the retinal anatomy and physiology and the retinal diseases (retinal inflammations, vascular retinal disorders, atrophy, detachment, glioma, injuries and retinal congenital disorders).

In the eleventh chapter are described again the anatomy and the diseases of the optic nerve. The optic nerve diseases include its inflammation, atrophy, its damage, tumors, congenital disorders without visual degeneration and haemianopsia.

In the twelfth chapter are presented the anatomy and the physiology of the eyelids and its diseases. These are: inflammation of the eyelid skin, eyelid edema, elephantiasis, chromidrosia, blepharochalasis, inflammation of the lid margin, diseases of the eyelid glands, tarsus diseases, trichiasis, distichiasis, abnormal eyelid positioning and joining, eyelid muscle diseases, eyelid injuries, tumors and congenital eyelid abnormalities.

The thirteenth chapter deals with the anatomy, physiology and the pathology of the lacrimal organs, and presents their diseases, which are the lacrimal points and tubes, the catarrh and inflammatory dacryocystitis and the diseases of the lacrimal gland.

The fourteenth chapter describes the anatomy and physiology of the ocular muscles and is focused on the main motility eye disorders as is the ocular muscle paralysis or deficiency, strabismus, nystagmus and the tonic spasms of the ocular muscle.

The fifteenth chapter deals with the anatomy of the orbit and its diseases, which are the exophthalmos and enophthalmos, the orbital periostitis, the abscess of a part of the eyeball, the tendonitis, the orbital tumors, Basedow’s disease, the abnormalities of the orbit’s formation and diseases of the adjoining to the orbit concavities.

Finally the sixteen chapter supplements the second part of the textbook. The conditions of clear vision are defined, the diopters, the optical properties of the eye, the refractive abnormalities and the eye adaptation disorders are analyzed.

**DISCUSSION**

When this textbook was written, no medical specialty of Ophthalmology existed in Greece, actually till 1929,
Ophthalmology was taught as a branch of surgery, as part of the surgical training schemes. The Greek scientific books on Ophthalmology were very few because the familiarity and study of the ophthalmologic apparatuses and diseases was considered unnecessary. The result of this condition was the insufficient education of the medical students and the limited learning options on Ophthalmologic issues. So this textbook gains special value since it gives specialized information, useful for trainee doctors.

Of interest is the fact stressed by the editors that this textbook contains pictures. These pictures are not photographs but gravures.

Also of interest is the method used for the direct eye examination under lighting, which is described at the very beginning of the book.

To obtain the oblique lighting, a candle lamp was used, while today oblique lighting is provided by using modern equipment, such as the slitlamp.

One can also note differences in the naming of certain diseases such as hydrophthalmos and chro-midrosis. Interesting is the naming “hypochyma” that cataract was called.

The main differences, however, between Bistis’ textbook and modern methods concern surgical operations. Very few operations were performed then and different operative techniques were used. There were no operations for glaucoma and entirely different techniques for cataract extraction were used, no refractive surgery and, of course, no laser treatment existed.

CONCLUSION

I. L. Bistis with his book “A textbook on Ophthalmology” attempts to improve the educational level of the medical students of his time. He provides specialized information on eye diseases and their treatment and on the methods of ocular examination. He supplies his students with enough medical information in order to make them avoid medical mistakes on Ophthalmologic matters.

Given the absence of books on Ophthalmology, this textbook is a remarkable work for its time. It is remarkable both as an aid for the medical students and as a complete study on Ophthalmology covering all the subjects that were known in the first decade of the 20th century.

"Εγχειρίδιον Οφθαλμολογίας" υπό Ι.Λ. Βίστη, Αθήνα, 1908.

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ΠΕΡΙΛΗΨΗ: Ο Ι. Λ. Μπίστης, το 1908, με το Εγχειρίδιο Οφθαλμολογίας, επιχειρεί να καλύψει το κενό στην εκπαίδευση των φοιτητών Ιατρικής της εποχής του, σε θέματα Οφθαλμολογίας. Το εγχειρίδιο χωρίζεται σε δύο μέρη. Το πρώτο μέρος αναφέρεται στην αντικειμενική και την υποκειμενική εξέταση του οφθαλμού και περιγράφει τις μεθόδους και τα μέσα εξέτασης. Το δεύτερο μέρος αναφέρεται στις οφθαλμολογικές νόσους, από τη σκοπιά της ανατομίας και της φυσιολογίας του οφθαλμού, της συμπτωματολογίας και της αιτιολογίας των νόσων, καθώς επίσης και από τη σκοπιά της πρόγνωσης και της θεραπείας τους. Περιγράφονται και αναλύονται οι νόσοι του επιπεφυκότα, του σκληρού και του ραγοειδή χιτώνα, ορίζονται οι νόσοι της ιριδάς και του ακτινωτού σώματος και αναφέρονται οι χειρουργικές επεμβάσεις που πραγματοποιούνται στην ιρίδα. Περιγράφονται επιστημονικά χρήσιμες πληροφορίες για τις νόσους του χοριοειδή χιτώνα, του κρυσταλλοειδούς φακού, του ναλοειδούς σώματος, του ομφιληστροειδούς χιτώνα και του οπτικού νεύρου. Περιγράφονται αναλυτικά το γλαύκωμα, τα λιπαρά και τα διαθλαστικά ανωμαλίες και τα διαταραχοί της προσαρμοστίας.

Λέξεις Κλειδά: Εγχειρίδιο οφθαλμολογίας 1908, Ελλάδα.