

Otto Habb and his pioneering work “Atlas of ophthalmoscopy” an artistic medical masterpiece

G. Balanikas^{1,2}, D. Christodoulou²

INTRODUCTION

Otto Haab, a Swiss Ophthalmologist was an eminent professor of ophthalmology at Zurich (1886-1919). This work presents his integrated treatise about the technique of ophthalmoscopy with examples and superb plates of the retina.

Otto Haab made contributions involving pathological anatomy of the eye, as well as in treatment of eye-related lesions. In 1885 he clinically described aged macular degeneration, and investigated the atrophic and pigment's epithelium changes in the macular region of the eye associated with the condition.

Haab introduced a complete and useful atlas of ophthalmoscopy utilizing the innovative discovery of Hermann von Helmholtz's ophthalmoscope with user instructions enriched with amazing authentic lithographs of retinal diseases.

1. A' Ophthalmologic Clinic Aristotle University of Thessaloniki, AHEPA Hospital
2. Laboratory of History of medicine, Medical School, Aristotle University of Thessaloniki

Corresponding author: G. Balanikas
e-mail: dioskouridis@yahoo.gr

AN ATLAS OF OPHTHALMOSCOPY

Otto Haab associated his name with a number of ophthalmological diagnostic signs such as Haab's reflex and diseases such as the AMD, Haab's striae in the Descemet's membrane associated with congenital glaucoma, epithelial disorders of the pigment epithelium, and others. The Fundus Atlas 'Atlas and Grundriss der Ophthalmoscopie und ophthalmoskopischen Diagnostik' was published in Munich in 1895 and the 5th edition was translated in English and was published in 1908 and an original copy is presented in this work. Haab also studied contributed to the pathological anatomy of the eye and this atlas contains several images of histological and pathological specimens.

In the English edition the following chapters are preceding the plates:

1. Preface
2. Table of Contents
3. Haab Plates
4. An Introduction to the Use of The Ophthalmoscope
5. Explanation of The Ophthalmoscope

6. The Use of The Ophthalmoscope (The Examination of the Erect Image), (The Measurement of the Hypermetropic Eye), (The Measurement of the Astigmatism) (Size of the Ophthalmoscopic Field of Vision) (Examination with Inverted Image) (The size of the Ophthalmoscopic Field of Vision) (Enlargement of the Image in the Direct and the Indirect Methods)
7. The Shadow Test, or Skiascopy (Skiascopy with the Concave Mirror)
8. The Choice of an Ophthalmoscope
9. The Method of Conducting an Ophthalmoscopic Examination
10. Pulsation Phenomena
11. Modern Developments in Ophthalmoscopy. The Use of Self-Luminous Instruments (The Use of Red Free Screens)

All these chapters give a thorough analysis and guidance on proper use of the ophthalmoscope. Otto Haab explains in detail the principles of operation and the capabilities of this valuable instrument.

This textbook contains 87 tables mainly of lithographic printing and is the English edition of the original textbook without other information.

The images it contains are similar to today’s photographs with some differences in the etiology of the disease. All the paintings were printed by the classic lithographic method (the stone plates) derived from the original plates of the German edition.

The definition of the legends was placed by Otto Haab (with some reservations about the aetiology).

In this work 20 lithographic depictions of the fundus of the eye are presented, 3 tables with microscopic histological specimens as well as the title page of the atlas.

The original legends of the conditions were retained to underline author’s diagnostic perception.

A number of plates from the atlas have been selected, with identifiable conditions even today, with minor aberrations

and many diseases have been explained precisely.

CONCLUSION

Otto Haab, a great Swiss ophthalmologist, offered his colleagues a landmark work with detailed instructions on the ophthalmoscopy and a collection of stunning icons of high artistic value, retinal pathology, contributing to a deeper understanding of ocular diseases.

TABLES

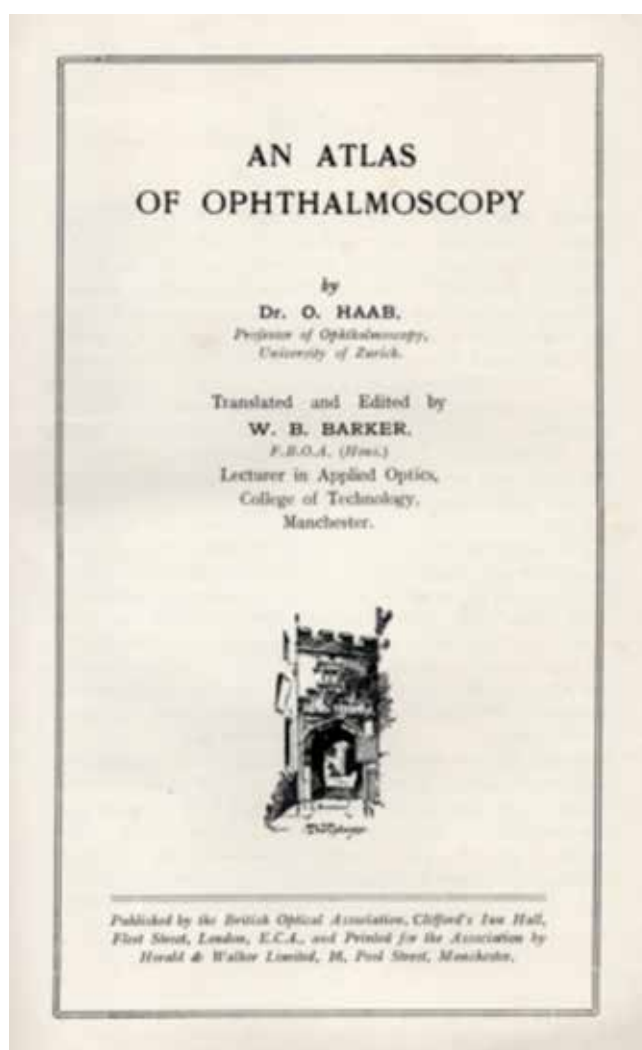


Figure 1: The title's page of Atlas

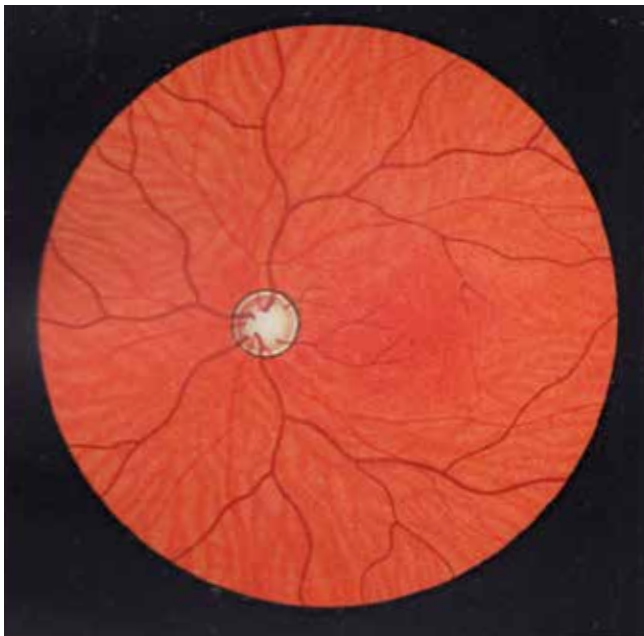


Figure 2: Normal Fundus

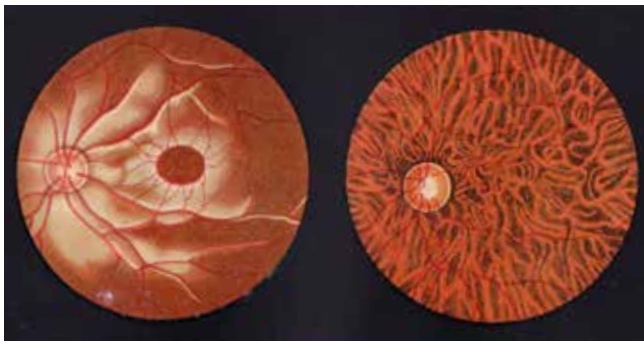


Figure 3: Normal Fundi (Normal Fundus Variations)

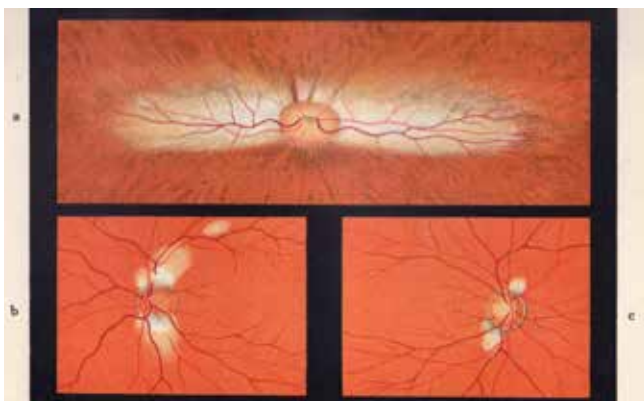


Figure 4: Medullated Nerve Fibres



Figure 5: Congenital Coloboma of the choroid- Congenital absence of Pigmentation (Albinism)

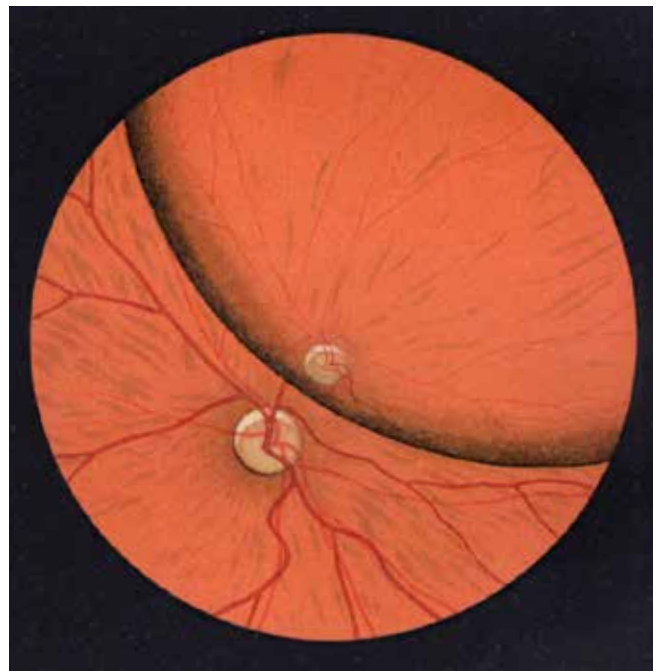


Figure 6: Congenital Dislocation of the Lens

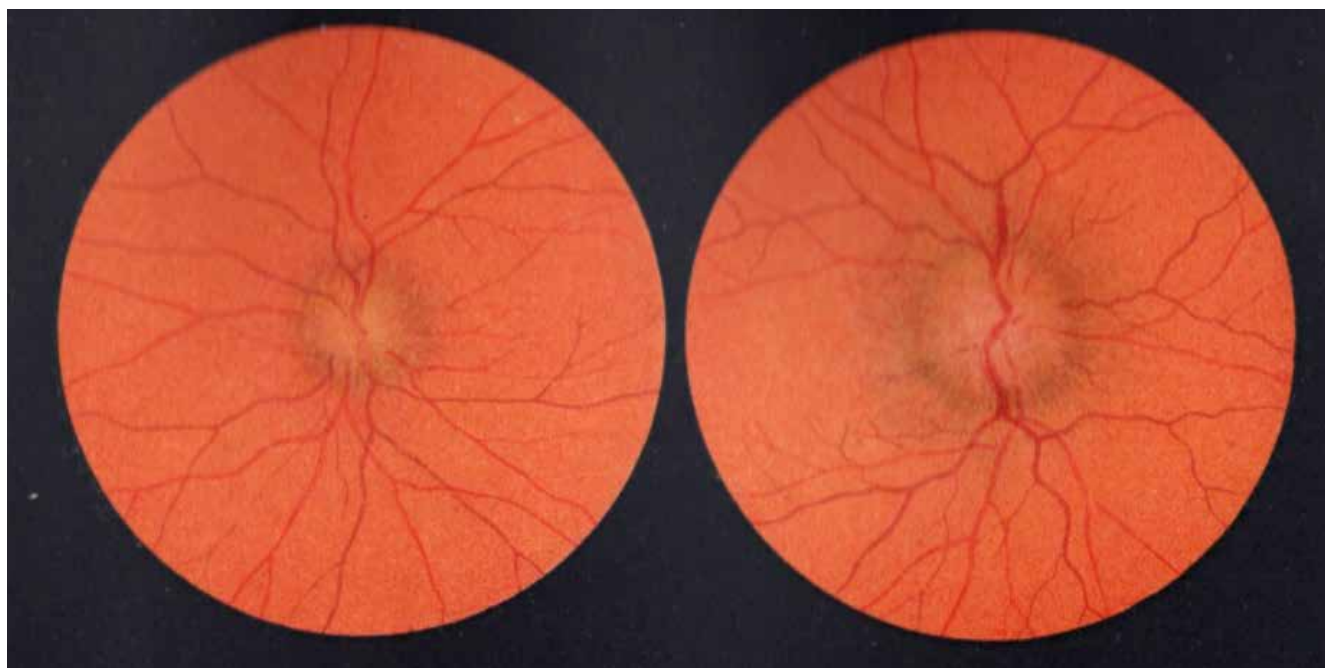


Figure 7: Optic Neuritis

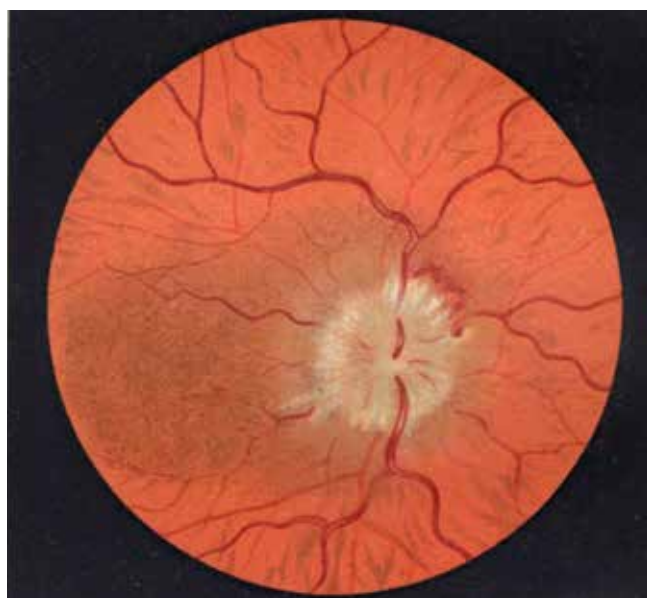


Figure 8: Intense Inflammation of the Optic Nerve (Papillitis).



Figure 9: Marked Inflammation and Congestion of the Optic Nerve in a Case of Orbital Tumour

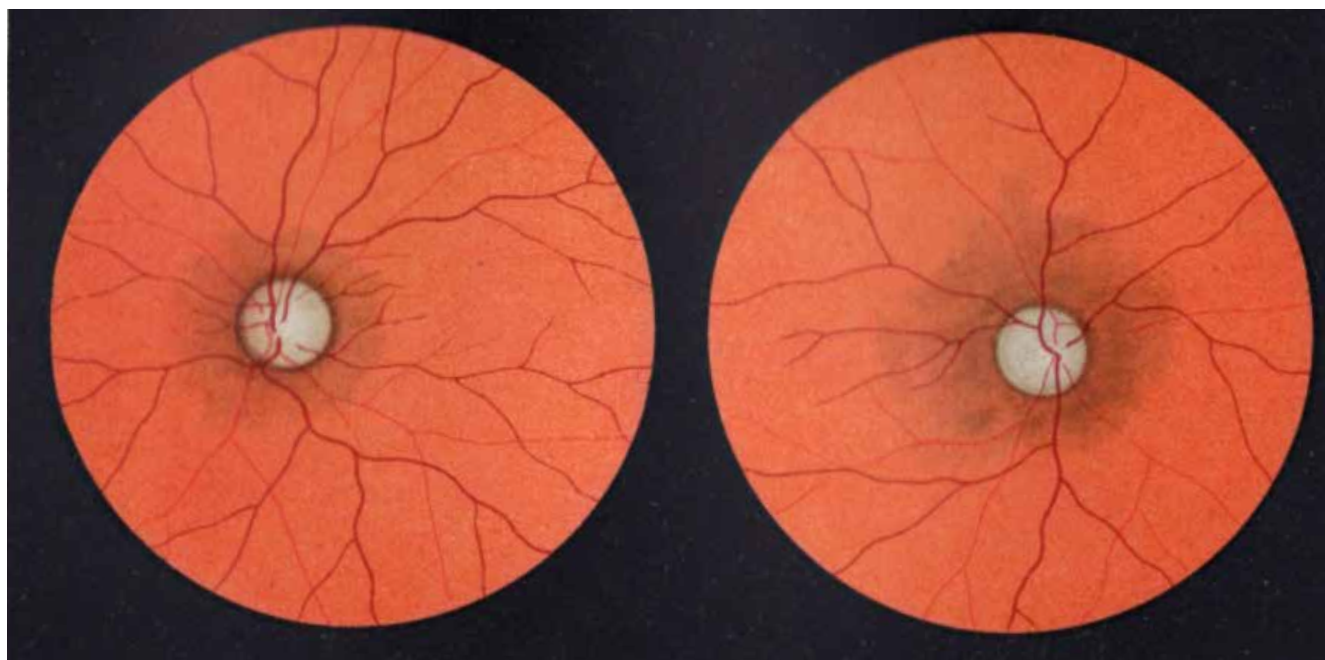


Figure 10: Commencing Grey Atrophy of the Optic Nerve

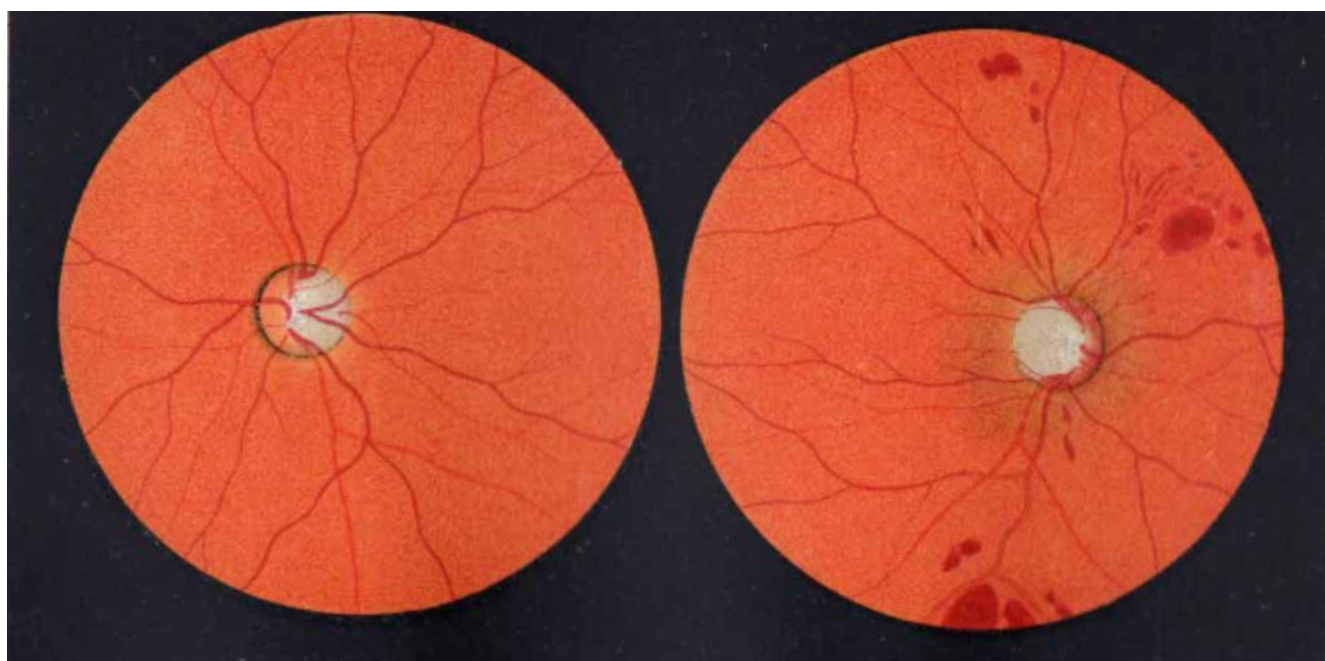


Figure 11: Commencing Glaucomatous Cupping of the Optic disc and the advanced case

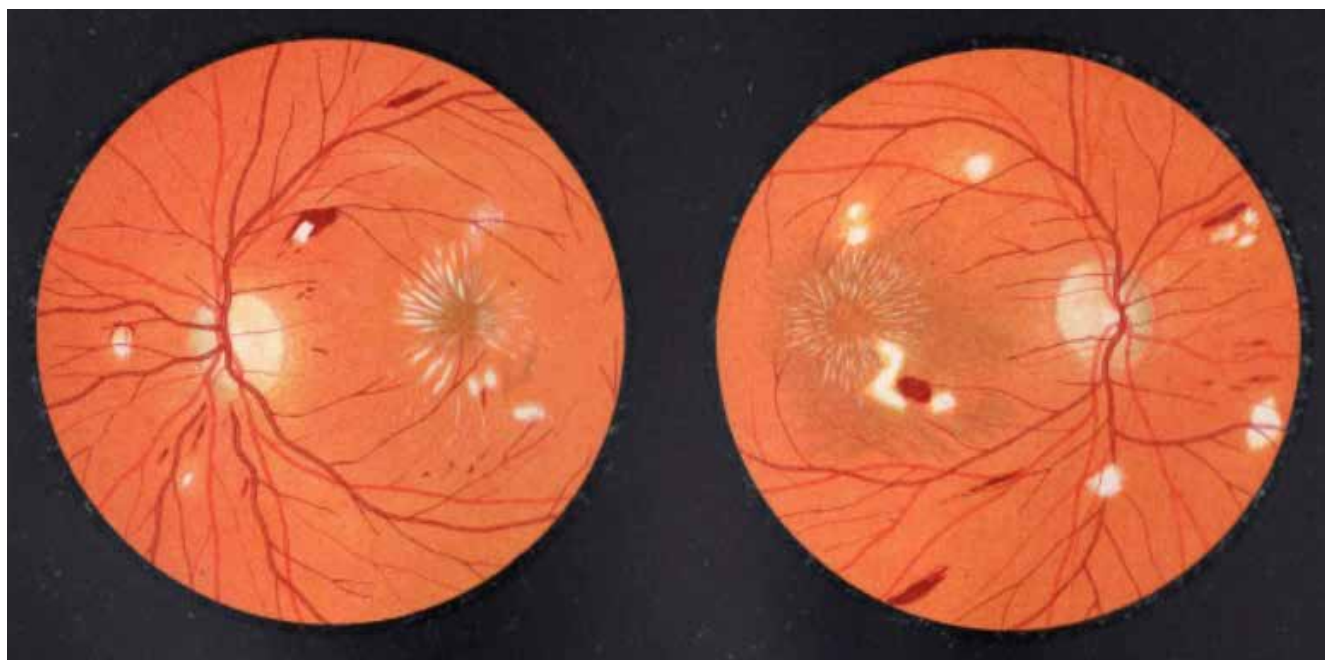


Figure 12: Alterations in the Retina and of the Optic Disc Albuminuria (Neuro-retinitis Albuminurica) of both eyes

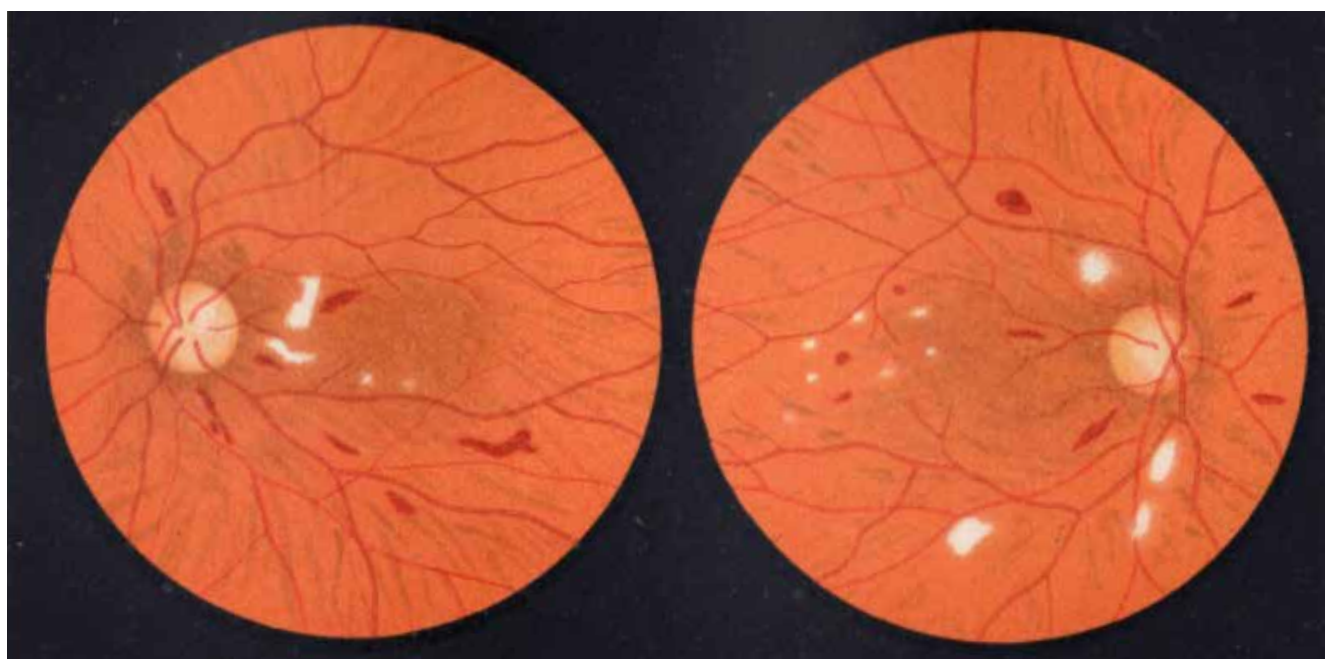


Figure 13: Fundus Changes in Diabetes, (Retinitis Diabetica) in Both Eyes

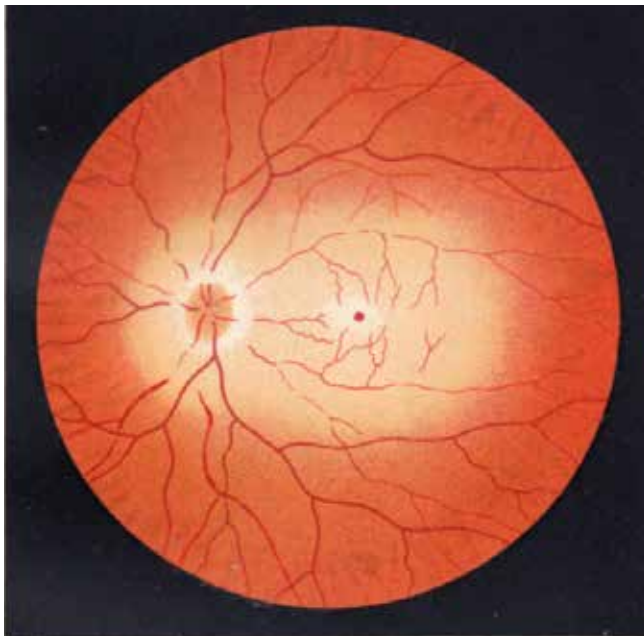


Figure 14: Obstruction of the Central Retinal Artery



Figure 16: Recurring Haemorrhages in the Retina and Vitreous of a Young Person (Direct Method)

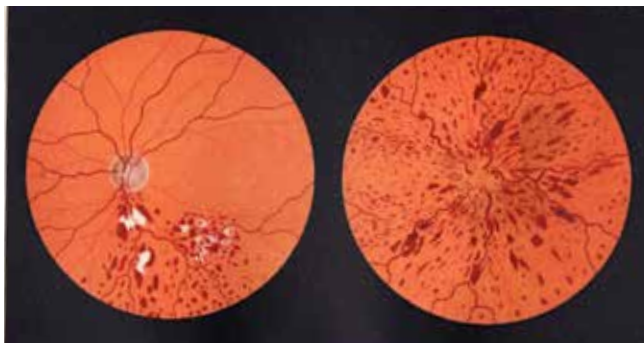


Figure 15: Thrombosis of the Superior Temporal Vein-so-called Haemorrhagic Retinitis And thrombosis of the Central Retinal

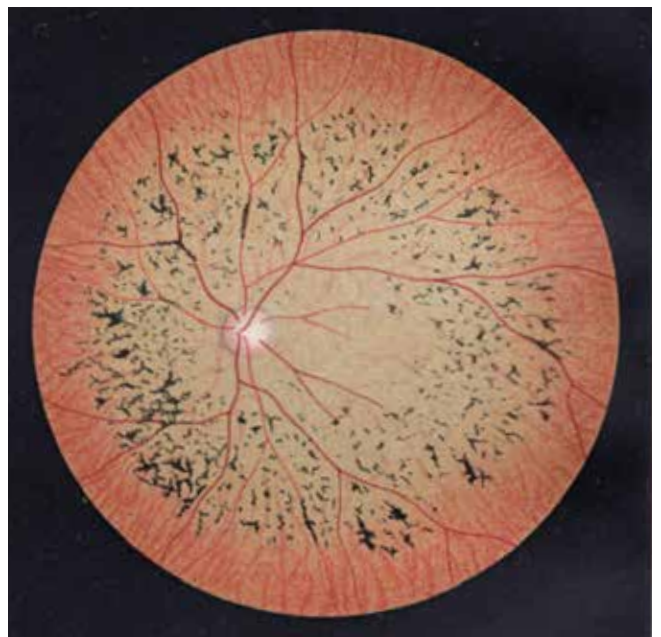


Figure 17: Pigmentary Degeneration of the Retina (Retinitis Pigmentosa in a more Advanced Stage)

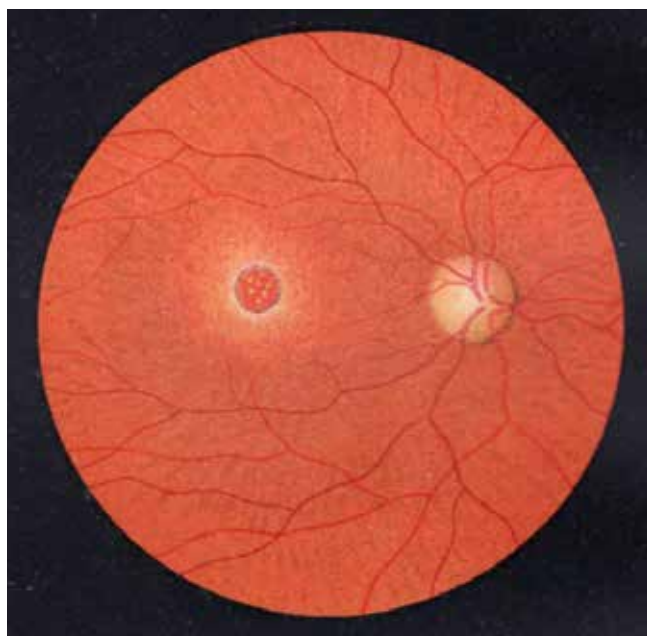


Figure 18: Perforation of the Macula after Contusion of the Eyeball.

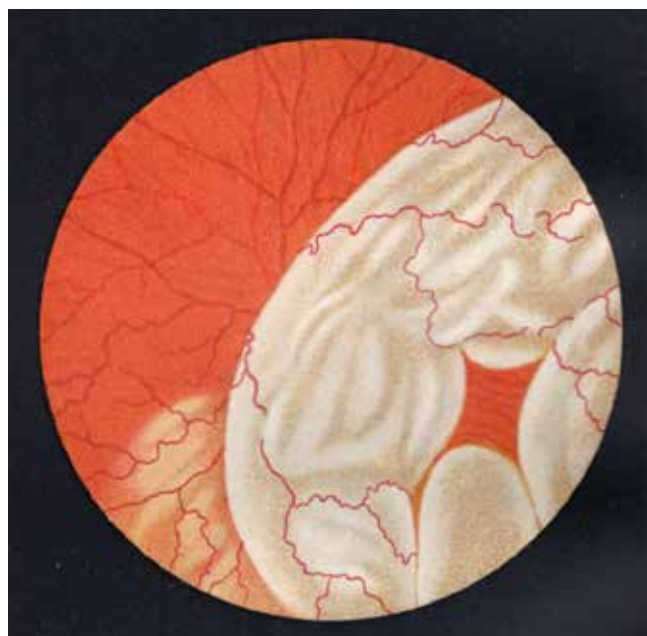


Figure 20: Retinal Detachment (Solutio Retinae) with Laceration

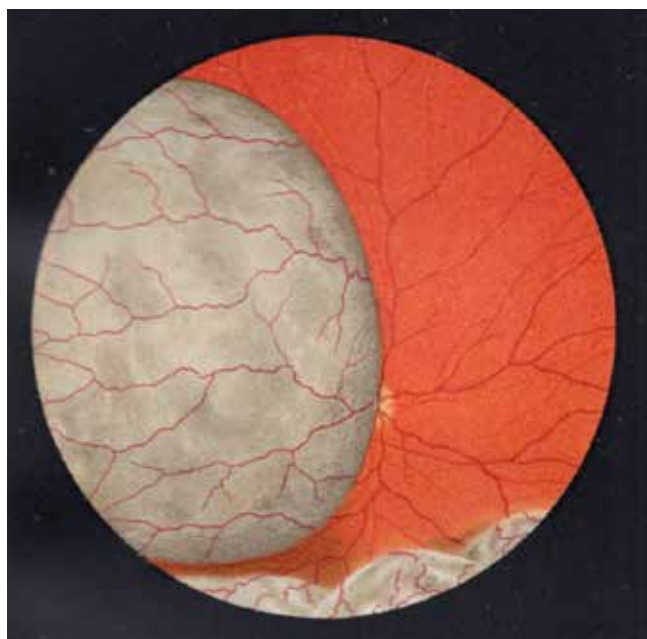


Figure 19: Sarcoma of the Choroid



Figure 21: True staphyloma in a highly Myopic Eye (First described by Weiss)

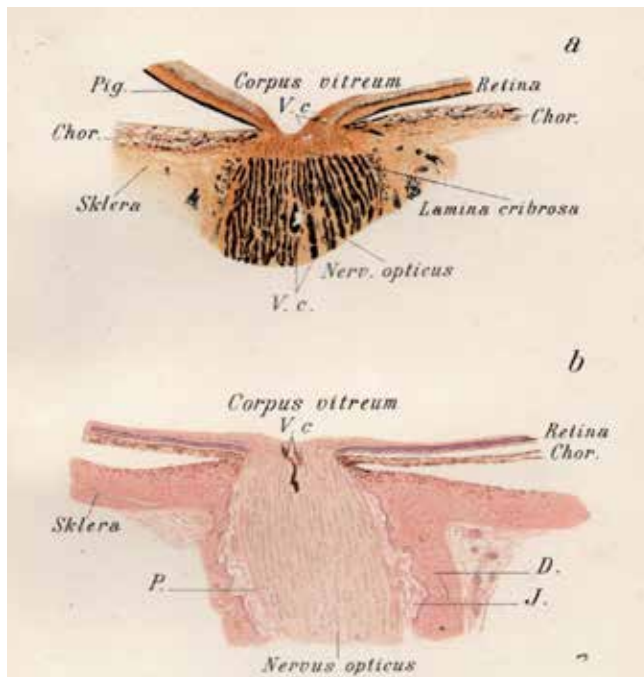


Figure 22: Longitudinal Section through a Normal Optic in the other showing almost no excavation

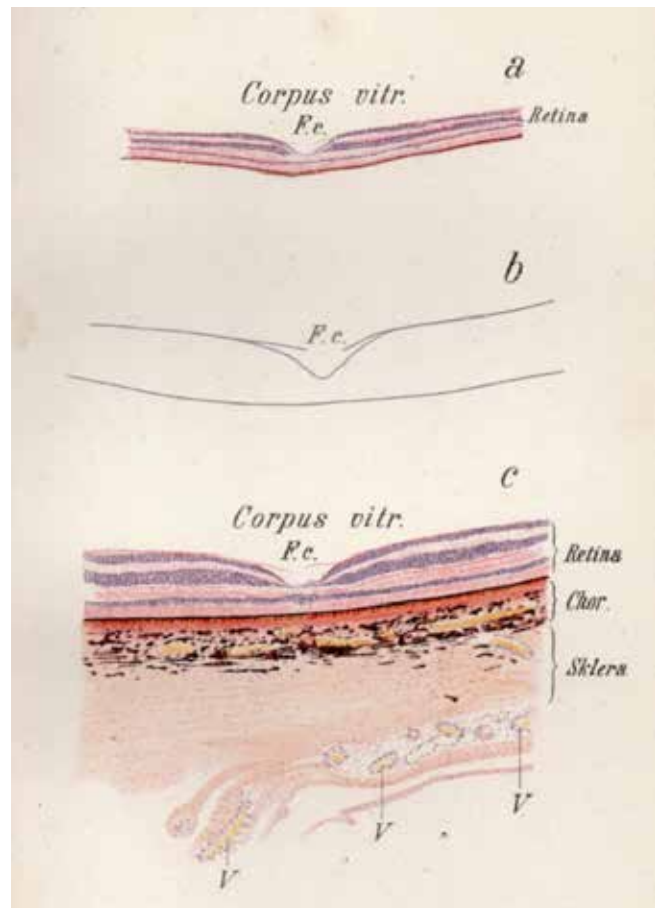


Figure 24: Horizontal Section through a Normal Macula Lutea almost exactly through the centre of the Fovea centralis (F.C.)

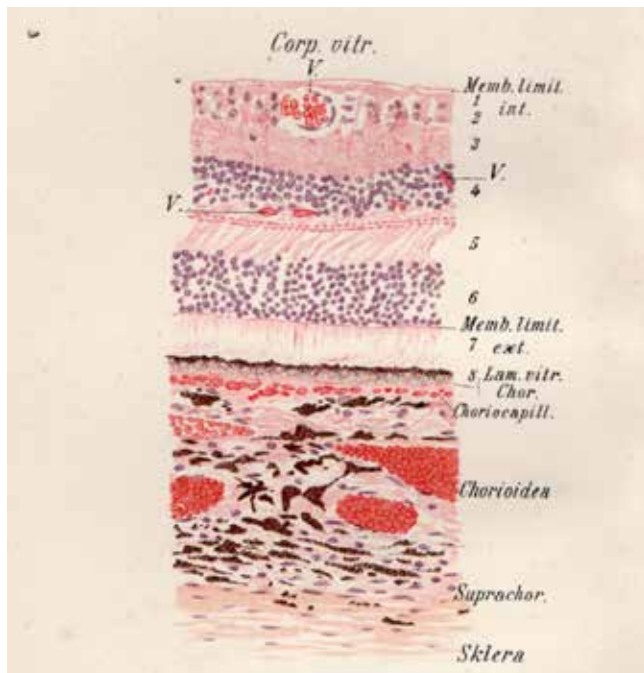


Figure 23: Section through the Retina, Choroid, Nerve and adjacent Sclera of a Normal Eye with a fairly dark pigmentation