

Portal: An Ophthalmologist's Masonic Perspective on the Eye

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As a practicing ophthalmologist and Freemason, I have the privilege of treating and operating on one of the more mysterious and elegant parts of the body – the human eye. The eye is complex and can be most closely compared to a camera that uses film, rather than digital media. Light travels past the eyelids, which are comparable to the shutter of a camera, controlling the duration of light entering the eye; it then passes through the clear surface of the cornea and the circular iris, which provides the color of the eye, and is comparable to the aperture of the camera; it then passes through the lens, which serves the same purpose in both the eye and camera – to focus light on the retina, or film (Figure 1).

The eye, however, is merely the first component of an elaborate and elegant visual system. Information collected by the retina is then transmitted via the optic nerve through the optic chiasm, where information from the right side of the body is transmitted to the left side of the brain and information from the left side is transmitted to the right side of the brain. The information terminates in the occipital lobes of the brain, where the images are compiled and converted into what we describe as vision (Figure 2). This eye allows us to gather visual information for us to use in interacting with our environment, to metaphorically “look out the window,” but, as we will soon examine, the eye also affords us the ability to “look IN the window,”

Vision is so intrinsic to our daily lives, that its value is often not realized until it is lost. Although modern individuals with visual impairment are capable of leading productive, enjoyable lives, reason would dictate that the possession of good vision was essential for prehistoric man in facilitating his ability to hunt for food or escape from those creatures hunting him. Similarly, throughout history, visual ability could have determined whether a warrior lived or died in battle.

To understand the use of the eye as a symbol concealing more esoteric topics, we must examine its use through the ages. Accepting the importance of vision among the five senses about which we are taught in our ascent of the flight

of winding stairs during the Fellowcraft degree, it is no surprise that the ancients used the eye as a symbol of the watchful gaze of Deity. Osiris, the ancient Egyptian judge of the dead and god of agriculture, fertility, death, and resurrection, was represented by a hieroglyph consisting of an eye, a throne, and a depiction of Osiris (Figure 3).(Collier and Manley 1998, 41-42)

The Eye of Horus, or wedjet, is one of the more recognizable ocular symbols from Egyptian mythology (Figure 4). Horus was an Egyptian sky God, and the son of Osiris and Isis. He was typically represented as having the head of a falcon. The teardrop markings correspond to the markings sometimes found around the eyes of falcons. The right eye of Horus represented the sun and the left eye, the moon. Seth, the brother of Osiris, killed Osiris, initiating a struggle between Seth and Horus. This fight resulted in Seth removing the left eye of Horus and Horus castrating Seth. The eye was magically restored by Thoth or Hathor (a female deity older than Isis who shares many of the same traits and attributes) and became a symbol of protection and healing. This symbol was sometimes attributed to the Sun God, Ra, who was often represented as a falcon with a blazing sun disk over his head. (Wilkinson 2003, 195-215)One of the names of the sun disk was the Eye of Ra. The Eye of Horus or the Eye of Ra were frequently placed on amulets for protection. (Bunson 2002, 152)

The Egyptians and Hebrews alike selected the eye as a representation of this function of the all-powerful Supreme Being. It was used to symbolize watchfulness and care over the universe. The Psalmist wrote in Psalms 34:15 (New International Version), “The eyes of the Lord are on the righteous and his ears are attentive to their cry.” Proverbs 15:3 (New International Version) states, “The eyes of the Lord are everywhere, keeping watch on the wicked and the good.” (Mackey 1884, 57)Eyer described the evolution of biblical literary representations of the divine gaze into a distinct symbol through Kabbalistic writings and thought. As Jewish practices forbade the use of icons or other visible representations of deity, the use of the symbolic eye of providence flourished in Christian art, which was unhindered by these restrictions.(Eyer 2015, 106-130)

In the Dharmic spiritual traditions, especially Hinduism and Buddhism, the brow chakra, or meditation focal point, is called the third eye. In this tradition, the third eye acts as a gateway to higher planes of consciousness. This gateway is said to be located in the middle of the forehead. (Figure 5).(Radha 1978, 140)Hindus place a marker, or tilaka, on the forehead to represent this third eye. Those practitioners claim that they may experience religious visions and out-of-body projections by utilizing this chakra. Helena Petrovna Blavatsky (1831-1891), the

occultist and theosophist, suggested that the human pineal gland was actually the third eye.(Blavatsky 1888, 289-306) The pineal gland's biologic function is to secrete melatonin, which is a hormone which regulates circadian rhythms, or sleep-wake cycles. There is a cancer of the retina which can occur in children called retinoblastoma. One variant is named trilateral retinoblastoma, which implies that the cancer can occur in three places. Those locations are the right eye, the left eye, and interestingly, the pineal gland.

The symbol of the eye found its way into the discipline of architecture in the form of the oculus (from Latin oculus, or eye), which is a round opening in the center of a wall or dome. One of the more famous examples of this feature is in the dome of the Pantheon in Rome (Figure 6). The Pantheon was built by Hadrian between 118 and 128 AD as a temple to "all the gods."The dome of the rotunda was designed to represent the universe and heavens, similarly to our Masonic lodges, and featured the oculus as a symbol of the watchful eye of the gods. The oculus in the dome of the Pantheon is 30 feet in diameter and is the only source of natural lighting in the building.As the light creeps across the floor and walls, it acts similarly to a sundial. (Roth 1993, 224) The oculus is open to the atmosphere and, on a clear day, the clouds and sky can be seen, directing the gaze upward and the mind to ponder the divine.

The eye as a Masonic symbol was introduced in 1797 in Thomas Smith Webb's Freemason's Monitor.He interpreted the Eye of Providence symbol (Figure 7) by the following: " And although our thoughts, words, and actions, may be hidden from the eyes of man, yet that All-Seeing Eye, whom the Sun, Moon and Stars obey, and under whose watchful care even comets perform their stupendous revolutions, pervades the inmost recesses of the human heart, will reward us according to our merits."(Webb 1821, 66)The reverse of the Great Seal of the United States consists of a pyramid of 13 steps with the All-Seeing Eye in a Triangle at the summit. There first of the two mottos – Annuet Coeptis means "He Favors Our Undertakings." The second – Novus Ordo Seclorum is translated "A New Order for the Ages." Unsurprisingly, there is a legend that this image (Figure 8) was included because of the influence of the Freemasons; however, the Great Seal was adopted 14 years before the symbol was adopted in Webb's Monitor.(Morris 1995)

Being the primary organ for the sense of vision, the eye allows one to peer outward and interpret information obtained from his or her immediate environment; however, the eye has been opined by many influential thinkers to be an inward-facing portal, allowing one to peer into a person's soul.The origin of

the common aphorism, “The eyes are the window to the soul” is uncertain; however, one of the following statements, or a combination thereof, is likely:

“ Ut imago est animi voltus sic indices oculi” (“The face is an image of the mind, with the eyes as its interpreter.”)–Marcus Tullius Cicero, 46 BC(Cicero 1885, 204)

“The eye is the lamp of the body. If your eyes are healthy, your whole body will be full of light. But if your eyes are unhealthy, your whole body will be full of darkness. If then the light within you is darkness, how great is that darkness!” - (Matthew 6:22-23 New International Version)

“To thee I do commend my watchful soul, Ere I let fall the windows of mine eyes.” - William Shakespeare, (King Richard III 1.3.117, Sc.3, Line 117)

The examination of the internal machinations of the eye supports the conceptualization of the eye as an inward portal, as several important health conditions and diseases may be diagnosed through an eye exam, when there are no other outward signs or symptoms in the patient.

Humans have been attempting to treat eye conditions for centuries. A comprehensive history of ophthalmology is outside the scope of this paper; however, a brief overview is beneficial to illustrate the path to modern ophthalmological technology. The first documented treatment of ocular conditions is contained in the Egyptian Ebers Papyrus, which is a collection of herbal knowledge dating to 1550 BC. Ophthalmic knowledge was advanced greatly by the Greeks. Plato erroneously thought that light emanated from the eye to “catch” objects with its rays. Aristotle, who spent time dissecting animal eyes, correctly believed that the eye received light, rather than emitting it. Galen, the famous Greek physician, in the second century AD, described many of the fundamental anatomical components of the eye. Medieval Islamic physicians and Renaissance anatomists and physicians further contributed to our knowledge of the anatomy of the eye. The first hospital devoted to eyes was Moorfields Eye Hospital in London. It is still in operation today. The first ophthalmoscope, an instrument that allows a clinician to look inside the eye was invented by Hermann von Helmholtz in 1851, ushering in the modern era of ophthalmoscopic examination.(Wheeler 1946, 264-275)

Utilizing state-of-the-art retinal imaging and examination techniques, the ophthalmologist can see into the back of the eye and view the retina, its blood

supply, and the optic nerve, which carries visual information to the brain, and is the only place in the human body in which the central nervous system can be directly visualized. Figure 9 is an example of a normal retina.

Although there are many conditions that may be diagnosed with a comprehensive eye examination, this paper will focus on those which reveal the most about a person's health status. Pathology such as tortuous, or "curvy" blood vessels, retinal hemorrhages, and mini-strokes, or "cotton-wool spots" can be identified (Figure 10), thus diagnosing hypertension, or high blood pressure, without even having a blood pressure cuff present.

With persistent hypertension, the walls of the retinal arteries thicken to contain the higher pressure, but in the process of doing so, the inside, or lumen, of the artery is narrowed. Retinal arteries carry blood to the retina, and retinal veins carry blood away from the retina. The blood vessels can become damaged and leak their contents into the retina causing swelling or edema. Because thickened retinal arteries travel and cross over the retinal veins, they sometimes cause a retinal vein occlusion (Figure 11). Hypertension can often be diagnosed when this condition is seen in the eye. (Murphy, Lam and Chew 2006, 1377-1379)

Hemorrhages within the substance of the retina, new blood vessels growing on the surface of the retina, swelling or edema of the center part of the retina, and the presence of scar tissue are characteristics of a retina that is not receiving enough oxygen, or ischemic. These are all hallmarks of diabetic retinopathy.

Diabetes can affect sight and is a leading cause of blindness in American adults. If one has diabetes mellitus, the body does not use and store sugar properly. High blood sugar levels may cause damage to the blood vessels in the retina. The damage to retinal vessels is referred to as diabetic retinopathy.

There are two types of diabetic retinopathy: nonproliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). NPDR is an early stage of diabetic retinopathy. In this stage, tiny blood vessels within the retina leak blood or fluid. Mild NPDR usually does not affect vision. When vision is affected, it is the result of macular edema or macular ischemia.

Macular edema is swelling or thickening of the macula, a small area in the center of the retina. Similarly, to hypertensive retinopathy, the swelling is caused by fluid leaking from retinal blood vessels. This is the most common cause of vision loss in diabetes. Macular Ischemia occurs when small blood vessels close.

Vision blurs because the macula no longer receives enough blood supply to work properly.

PDR is present when abnormal new vessels begin to grow on the surface of the retina or optic nerve (Figure 12). The main cause of PDR is widespread closure of retinal blood vessels, preventing adequate blood flow. The retina responds by growing new blood vessels in an attempt to supply blood to the area where the original vessels closed. The new vessels do not resupply the retina with normal blood flow, are often accompanied by scar tissue that may cause wrinkling or detachment of the retina. PDR may cause more severe vision loss than NPDR because it can affect central as well as peripheral vision.

PDR causes vision loss by vitreous hemorrhage and tractional retinal detachment. The fragile new vessels may bleed into the vitreous, a clear gel-like substance that fills the center of the eye. When PDR is present, scar tissue associated with neovascularization can shrink, pulling the retina from its normal position. This can cause visual distortion. Severe vision loss can occur if the macula or large areas of the retina are detached.(Chew and Ferris III 2006, 1271-1275)

In addition to the previously mentioned chronic medical conditions, more serious and life-threatening diseases may be diagnosed through an ocular exam. A white coloration of portions of the back of the eye (which is normally red-orange in color) along blood vessels associated with retinal hemorrhages results in an appearance called affectionately by ophthalmologists as the “pepperoni pizza” look (Figure 13). This is the classic appearance of cytomegalovirus (CMV) retinitis. It is often seen in AIDS (acquired immune deficiency syndrome) or other states of immune system deficiency.

Cytomegalovirus is an “opportunistic” virus, which normally does not cause any problem in the human body, until a weakened immune system is encountered. This allows the virus to take hold and cause an actual viral infection of the retina. Herpes simplex viruses (HSV) and varicella “chickenpox” virus can infect the retina, as well.

AIDS is a disease caused when the human immunodeficiency virus (HIV) weakens the immune system to a point when an opportunistic infection can occur. One can have the HIV virus and not have AIDS. AIDS is no longer a death sentence. Patients who are appropriately treated can have relatively normal lifespans.(Vaudaux and Holland 2006, 1605-1610)

Fluffy white clumps floating in the vitreous gel in the eye and growing on the retina (Figure 14) are highly suggestive of a fungal infection of the eye. Infections that originate at any location in the body can sometimes infiltrate the blood stream, which can then carry the infection to other places in the body. Because the eye is so vascular, it is a relatively common location for a systemic infection to spread. If a person contracts a fungal infection in the eye, he or she is usually sick enough to be hospitalized.(Holland 2006, 1683-1687) In support of the thesis that the eye is a window into the secrets of the soul, this condition may also be a sign that the patient is an intravenous drug abuser.

Creamy, yellow-colored lesions that have mass and elevate the overlying retina (Figure 15) are examination findings of the final condition to be discussed in this work. They remind the ophthalmologist of the solemn role he or she sometimes plays in diagnosing and relaying bad news concerning grave diseases that remind us of our own mortality, an ophthalmological “memento mori.” These lesions are sometimes associated with pain and are sometimes painless. Blurry vision may be reported, or there may be no symptoms at all. Unfortunately, these findings are often the first presentation of metastatic cancer, most often breast cancer in women or lung cancer in men, and the prognosis for long-term survival at this stage is often poor.(Schachat 2006, 811-817)

Why has such a large amount of space been allotted to ocular conditions in this article with a target audience of largely non-physician Freemasons? It is to show that a function as simple as an examination of the eye or even careful examination of a person’s body language and actions can reveal much that is hidden in the body and soul of that person.

As a career ophthalmologist and vitreoretinal specialist, I have the honor and privilege to work in a setting in which I can participate in one of the many ways to witness the Divine on a daily basis. Despite having seen thousands of patients in the last decade, I have never ceased to be amazed by this wondrous creation of the Grand Architect of the Universe, the human eye. I am reminded of our 14th degree in the Scottish Rite and the quote from Paul’s Letter to the Romans, “What can be known about God is plain to them, because God has shown it to them. For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made.”(Romans 1:19-20 English Standard Version). This verse is in concordance with the Hermetic principle of “As above, so below.” We are fortunate to be able

to obtain our limited knowledge of the divine by using our senses, especially that blessed gift of vision, to perceive the wonders that are present and displayed in our microcosm of the universe.

Similarly, the conversion of light into pleasing images by the human visual pathway, can well be compared to the Kabbalistic and mystical journey of the Divine, beginning in the heavens and descending to take its place in the vessel of humanity. The Mason is then able to transmute his rough ashlar into a perfect ashlar, an object of truth and transcendent beauty, this being one of the principal tasks on our trestle boards.

The human eye is truly a two-way “portal,” watching and observing, yet, simultaneously, revealing inner secrets. Just as each part of the eye must be in perfect condition and function perfectly together to achieve optimal vision, so must we, as Masons, peer inward and strive toward perfecting ourselves and working together with common purpose to achieve a betterment of the human condition and to gain admittance into that celestial lodge above.

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Images

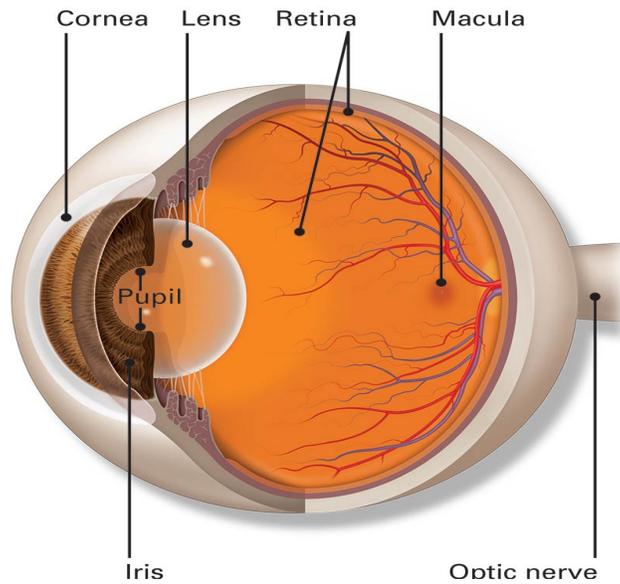


Figure 1: The Human Eye [Digital Image]
(n.d.) Retrieved from <https://www.aaopt.org/eye-health/anatomy/parts-of-eye>

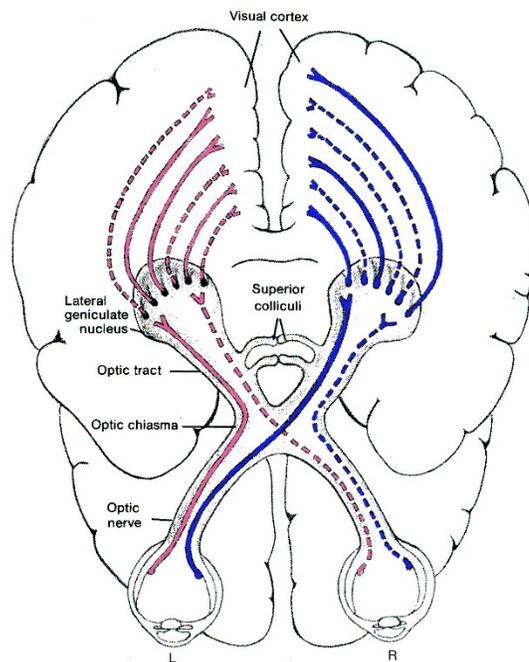


Figure 2: The Visual Pathway [Digital Image]
(n.d.) Retrieved from <https://hoffmancr.files.wordpress.com/2015/02/brain-top.jpg>



Figure 3: Hieroglyphic Depiction of Osiris
(n.d.) Retrieved from [https://commons.wikimedia.org/wiki/Category:Osiris_\(hieroglyphs\)](https://commons.wikimedia.org/wiki/Category:Osiris_(hieroglyphs))

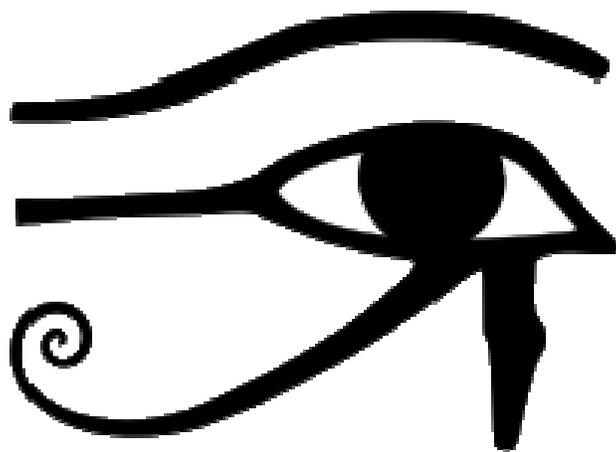


Figure 4. Eye of Horus [Digital Image]
Dahl, Jeff. (2015) Retrieved from
https://commons.wikimedia.org/wiki/File:Eye_of_Horus_Right.svg



Figure 5: Korean Buddha Statue Displaying Third Eye [Digital Photograph] (Harper, 2012).

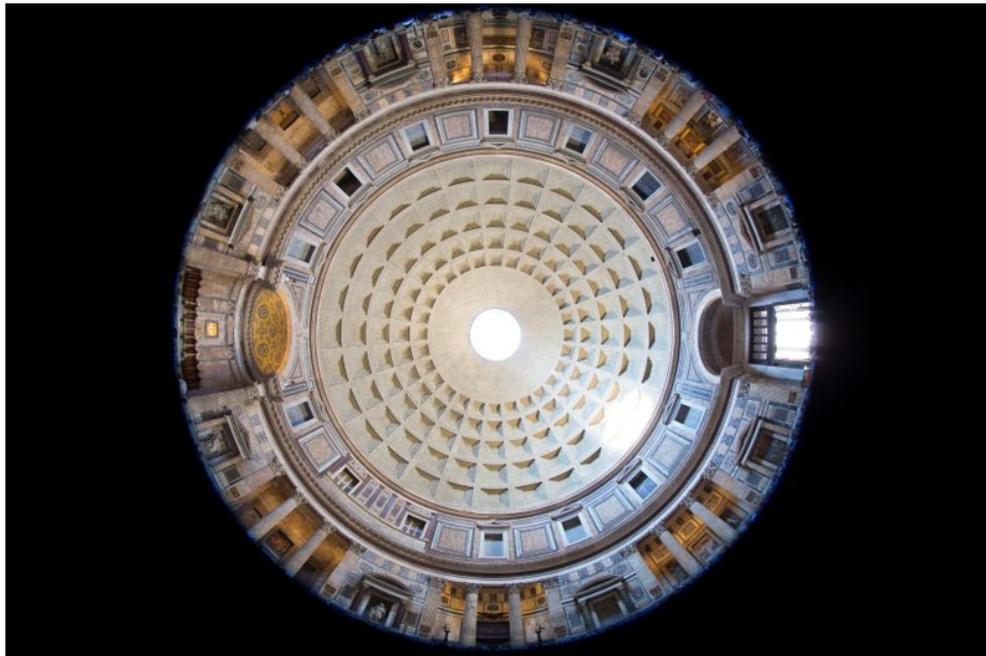


Figure 6. Oculus in the Rotunda of the Roman Pantheon

Grigas, Victor. Oculus photographed in fisheye by Victor Grigas, Pantheon, Rome. (2016) [Digital Image] Retrieved from https://en.wikipedia.org/wiki/Oculus#/media/File:Oculus_photographed_in_fisheye_by_Victor_Grigas,_Pantheon,_Rome.tif.



Figure 7. The Eye of Providence [Digital Image]
(n.d.) Retrieved from <https://commons.wikimedia.org/wiki/File:MasonicEyeOfProvidence.gif>



Figure 8. The Reverse Side of the Great Seal of the United States
(n.d.) Retrieved from https://commons.wikimedia.org/wiki/File:Dollarnote_siegel_hq.jpg



Figure 9: Normal Retina [Digital Photograph] (Harper 2020)

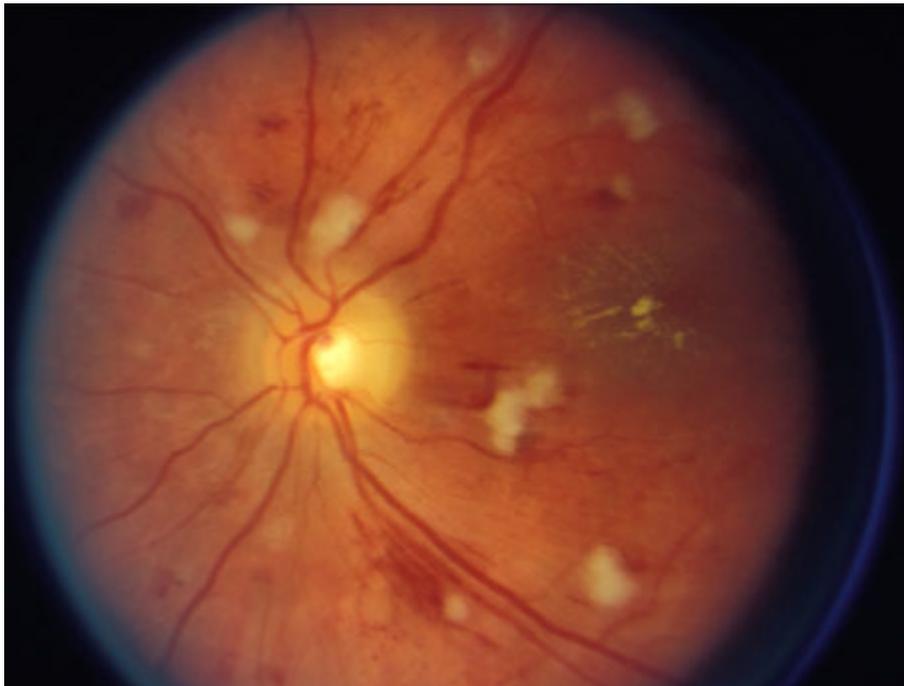


Figure 10: Hypertensive Retinopathy [Digital Image] (2013) Retrieved from <https://retinagallery.com/displayimage.php?pid=6471>



Figure 11: Retinal Vein Occlusion [Digital Image] (n.d.) Retrieved from (2020)<https://retinagallery.com/displayimage.php?pid=13374>



Figure 12: Proliferative Diabetic Retinopathy [Digital Image] Perron, James L. (2012) Retrieved from <https://retinagallery.com/displayimage.php?pid=5011>

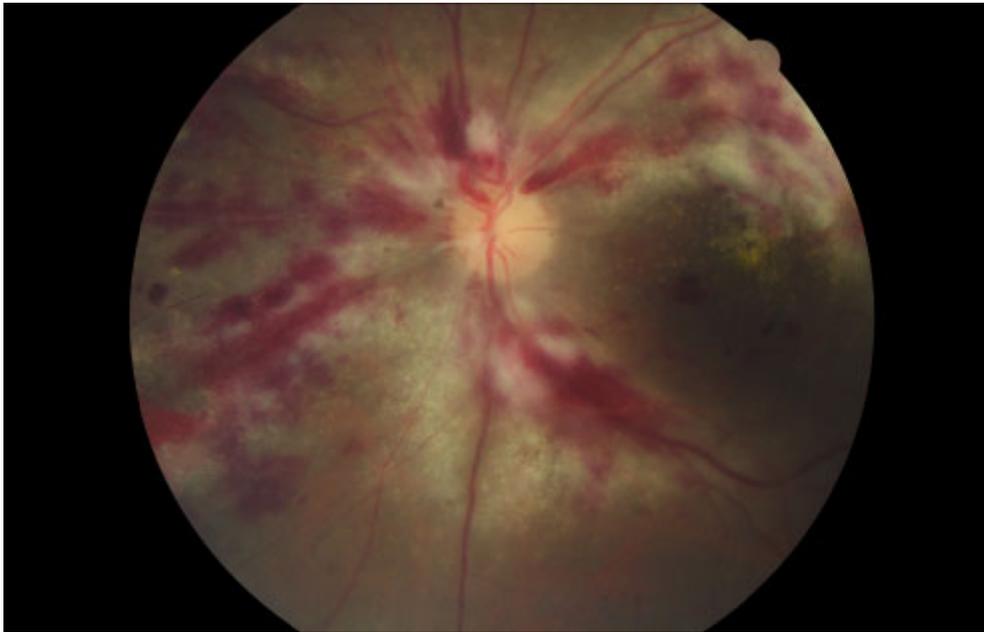


Figure 13: Cytomegalovirus Retinitis [Digital Image]
(2012) Retrieved from <https://retinagallery.com/displayimage.php?pid=3989>

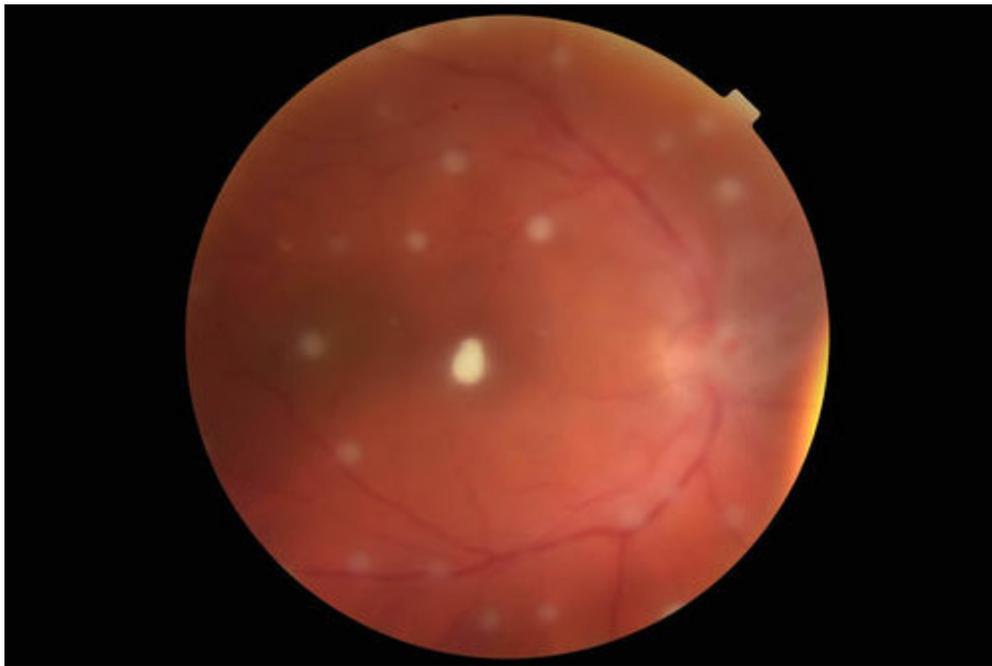


Figure 14. Fungal Endophthalmitis [Digital Image]
(2018) Retrieved from <https://retinagallery.com/displayimage.php?pid=11273>



**Figure 15. Metastatic Cancer [Digital Image]
(2012) Retrieved from <https://retinagallery.com/displayimage.php?pid=5429>**