



# Perspective

## Dame Ida C. Mann Part 1: A Visionary in Ophthalmology

By Michele Madigan, PhD

When internationally renowned ophthalmologist Dame Ida C. Mann died in Dalkeith, Perth, Australia, in November 1983, she left a far-reaching legacy of pioneering contributions and influence across academic and clinical ophthalmology.

Dr. Mann led an extraordinary life and medical career, attaining numerous achievements and honours, including a doctor of science in London and becoming Oxford's first female professor of ophthalmology. She was also named a Commander of the British Empire in 1950, and in 1980, a Dame Commander of the British Empire. She also received an honorary medical degree from the University of Western Australia in 1977 and honorary doctor of science degree from Murdoch University in 1983.

Dr. Mann's life illustrates a great depth of character, quick thinking, and ingenuity that were present

from the early days of her scientific and medical career. Imagine London circa 1920 ... an uneasy period between world wars, pandemics,



Dame Ida Caroline Mann, MBBS  
(1893-1983).

global human suffering and death, and a tremendous whirl of political, cultural, and social revolution.

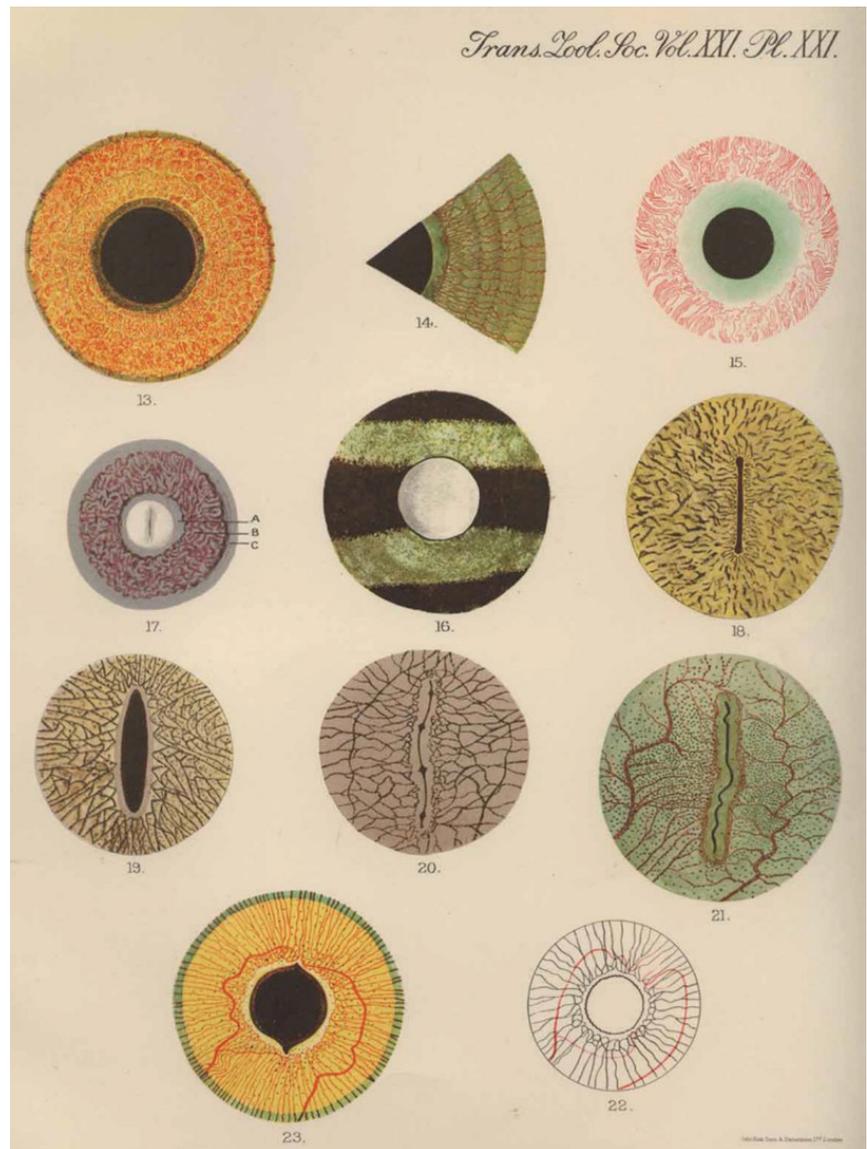
Into this hurly-burly, a young Dr. Mann ventured in search of scientific and medical knowledge, a quest that drove her for many years and across many countries, finally ending in Perth, Australia. Reading between the lines, one appreciates that Dr. Mann's life encompassed more than biographical achievements or that oft-noted English matter-of-factness. Rather, there emerges a sense of a person with great energy, clear thinking, resilience and strength of purpose, and almost unlimited curiosity and passion for finding out why.

"Ida was widely loved for her humour and intelligence but, her most remarkable feature was an inexhaustible zest for life and learning," according to a 1984 memorial published in the *Archives of Ophthalmology*. These qualities may resonate with emerging clinician scientists in ophthalmology embracing population "big data," the rich possibilities of personalised medicine driven by fields such as genetics, immunology, and pharmacology, and the ever-present background of process-driven administrators and governance.

## Dame Ida C. Mann

There are three phases in Dr. Mann's life in medicine, research, and ophthalmology. The first early phase of medical training, extracurricular teaching plus delving into anatomy, embryology, pathology, and surgery, and a rapid decision on specializing in ophthalmology became her life passion. These years produced extensive studies documenting human eye embryology and anatomy, and complementary studies of congenital and developmental abnormalities of the eye. These works still stand as the most authoritative descriptions of development of the human eye. There were clinical adventures too, including using the new Gullstrand slit lamp biomicroscope for incredible living eye anatomy, and even a rapid surgical approach for cataracts. She undertook animal eye anatomy research and provided eye care for animals at the London Zoo.

The second phase during World War II provided opportunities to consolidate and extend her research and clinical practice, plus exert emerging management skills. Her research for the Ministry of Supply in ocular surface responses to chemical warfare agents, notably mustard gas, led to the Imperial Cancer Research Fund's Mill Hill Laboratories, and its director, Professor William Gye, whom she later married. These years highlighted her boundless energy, practical sense, and great skills in getting things done, working adeptly with (and at times, around) government departments, hospital committees and other administrative systems. In 1941, Dr. Mann was appointed the Margaret Ogilvie Reader in Ophthalmology at Oxford University and worked on reorganizing Oxford Eye



A composite plate of images illustrating iris patterns, pupils, and vascular distribution in different species of birds and reptiles. These were drawn by Ida Mann, and published in *Transactions of the Zoological Society of London*, 1931.

Hospital and fundraising to establish the Nuffield Laboratory of Ophthalmology.

Finally, after moving to Australia in 1949, Dr. Mann went through a third phase of ophthalmology life that presented after the sudden devastating death of her husband, William Gye. This phase covered more than 20 years of travel, laboratory and clinical research, and private practice. Her extensive surveys in Australia (and later worldwide) carefully documented the incidence and severity of infectious eye diseases, with

significant impacts most especially for understanding and managing the previously unacknowledged widespread endemic of trachoma within Indigenous Australians.

### EARLY YEARS: FINDING A FUTURE IN OPHTHALMOLOGY

"The Chase," Dr. Mann's autobiography published in 1986 after her death, offers a full description of her early years. She was born in London in 1893, and as usual for the time, finished school at age 16. At her father's insistence she began work in a post office savings bank, a secure government job suitable for a woman. In the

## Dame Ida C. Mann

book, Dr. Mann recounts a visit with a group of co-workers to the London Hospital in Whitechapel.

The visit proved to be a life-changing experience that began an almost inexorable quest for learning and studying medicine. At the time there was but one medical school open to women in the United Kingdom: London School of Medicine for Women.

Dr. Mann quickly graduated from Regent Street Polytechnic, followed by matriculation in 1914 to the London School of Medicine for Women. Outstanding first-term results surprised Dr. Mann, and on reflection, she shifted her thinking about the purpose of her life. “This meant that I must now work very hard and really try to be, and do, something worthwhile. Up until now I had simply wanted to gain knowledge and travel the world. Now I had to *do* something, not merely observe,” she wrote in her autobiography.

She completed medical studies between 1916 and 1920, qualifying with MRCS, LRCP, and MBBS degrees. This was followed by a hunt for house jobs, the next step in supervised training and acquiring clinical skills and expertise needed to begin independent medical practice in the United Kingdom. Although not initially thrilled by the possibilities, Dr. Mann began as an ophthalmic house surgeon but was soon captivated by eyes.

“Eyes ... proved fascinating. ... it was live anatomy, accessible in almost every part to direct observation ...” she wrote. “A beautiful model of a good deal of physiology. ... linked with general medicine in many ways,”

Ophthalmology became her speciality, and subsequently her life. Her anatomy mentor and friend from St. Mary’s Hospital Medical School, Professor

Ernest Frazer, suggested she combine a passion for embryology and anatomy with studying human eyes, based on his laboratory’s unique collection of human embryo sections. The outcome was an outstanding thesis and doctor of science awarded in 1924.

This was followed by Dr. Mann’s book, “The Development of the Human Eye,” then a complementary book, “Developmental Abnormalities of the Human Eye,” where she noted in the preface “... to evaluate the origin of any developmental

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*“Eyes ... proved fascinating. ...it was live anatomy, accessible in almost every part to direct observation ...” she wrote. “A beautiful model of a good deal of physiology. ... linked with general medicine in many ways”*

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anomaly a knowledge of normal growth process is essential.” These two books remain landmark resources in the field.

During the early research years, Dr. Mann published prolifically in anatomical and ophthalmology journals, attended many conferences, and was invited to present lectures including the Anatomical Society and the Royal Society of Medicine. Her attention to detail and systematic approach to human ocular development highlight these works, all with further examples of her excellent hand-drawn illustrations. In 1927, Dr. Mann also qualified

as a Fellow of the Royal College of Surgeons (FRCS), followed by honorary ophthalmic surgeon appointments at Moorfields Eye Hospital and Royal Free Hospital, and established her private practice in London.

Dr. Mann was also an early adopter in ophthalmology. “New ideas, new apparatus, new techniques were developing everywhere,” she wrote “... I decided I must have a look at Europe.” For example, the new Gullstrand slit lamp initially captivated her with its application in living anatomy. This led to a trip to Zurich, Switzerland for classes with Alfred Vogt, a pioneer of clinical slit lamp biomicroscopy, and back to London to train others with this new expertise.

Contact lenses had caught her attention earlier, and new ways of making glass scleral lenses from personalised moulds of patients’ eyes were being applied by Josef Dallos in Hungary around 1937. Dr. Mann persuaded Dr. Dallos to move to England and to safety just before World War II. Drs. Dallos and his brother-in-law George Nissel soon opened their first contact lens clinic soon after in London. Dr. Mann recognised that bespoke scleral lenses could potentially help vision in patients with corneal scarring or corneal surface irregularities when spectacles could not. She later reported success with scleral contact lenses for some patients who had developed keratitis some years after mustard gas exposure during World War I.

Around this time, Dr. Mann ventured into comparative eye anatomy, with research at the London Zoo Reptile House laboratory where she used slit lamp biomicroscopy to view the iris and anterior segment of live (“chilled”) reptiles. Numerous hand-drawn slit lamp views of exquisite patterns and details of the iris vasculature and the anatomy of reptiles (and other animals) were prepared. She also provided

## Dame Ida C. Mann

eye care for animals in the London Zoo during these years.

In one story, Dr. Ida Mann delivered the 1930 Nettleship Lecture at the Ophthalmological Society of the United Kingdom meeting at the London Zoo, using a slit lamp to demonstrate the features of reptile eye anatomy and wearing a chilled python draped around her neck — much to the surprise of those attending.

Her growing research profile in ocular embryology and anatomy, comparative anatomy, and pathology, produced many landmark publications and led to conference travels, teaching invitations in the United States, and prestigious awards. They include the Oxford Ophthalmological Congress' Doyne Lecture and Medal in 1929 and the Ophthalmological Society of the United Kingdom's Nettleship Medal and Lecture in 1930.

She first visited Australia in 1939, invited as inaugural speaker to a newly formed Ophthalmological Society of Australia. Australians and their way of life made a positive impression, perhaps later remembered in her decision to move there in 1949. Not long after returning to England while on holidays in Scotland, World War II exploded, and she rushed back to London to find Moorfields Eye Hospital closed by the Ministry of Health, and a new phase of her career and life began.

### WORLD WAR II YEARS: 1939 TO 1949

Several reviews and autobiographical insights from the "The Chase" provide great details of Dr. Mann's extensive activities during World War II.

Moorfields Eye Hospital, which she helped rescue after a sudden Ministry of Health decree closed its doors, was turned into a first aid station. Not long after, Moorfields reopened, and Dr. Mann pushed

on despite many contradictory administrative directives and prevailing confusions. In between London private practice, clinics, and surgery at Moorfields Eye Hospital and its annexes, were brief visits to Oxford, Dr. Mann researched corneal vascularization and the underlying causes for chronic keratitis in patients with post-mustard gas exposure.

Dr. Mann did research at the Imperial Cancer Research Fund Laboratories, Mill Hill, and soon extended her studies of the ocular effects of various toxic substances and chemical warfare agents under the direction of the Ministry of Supply. She led a small research team in the government's Chemical Defence Research Department. At Mill Hill, she met her future husband, Professor William Gye, whom she worked with on laboratory studies of cancer and viruses.

In 1941, Dr. Mann was invited to be the Margaret Ogilvie Reader in Ophthalmology at the University of Oxford, and moved from an exhausting environment of constant bomb threats, raids, rationing, and dealing with rubble, to fully immerse herself in this new demanding role. During her first years at Oxford, she worked tirelessly to reorganise and expand Oxford Eye Hospital, restart postgraduate medical training, and secure funding and established the now internationally renowned Nuffield Laboratory of Ophthalmology.

Dr. Mann established her own research group, began an orthoptics school, and pushed the restart of the Oxford Ophthalmological Congress. In "The Chase," she explained her Herculean efforts: "Before the war, the average annual outpatient attendance had been 2,000; it was now 22,000 and no extra staff had been appointed," she wrote. "In the ensuing nine months I cleared the Augean stable."

Dr. Mann's straightforward approach showed a remarkable

ability to navigate mazes of administrative, social, and political systems, and mostly male-dominated university and hospital committees, boards, and hierarchies. She had a capacity to see beyond obstacles, and there were many, by all accounts, to find practical solutions quickly, and to get things done, exemplified her hallmark energy, drive, and resilience. During this time, her research continued, including corneal wound healing and epithelial cell migration, clinical testing of a new synthetic mydriatic, and using intraocular penicillin injections for eye infections or injuries (collaborating with the Floreys), years before intravitreal injections of antibiotics or steroids became part of mainstream clinical ophthalmology.

In 1942, the University of Oxford awarded Dr. Mann a chair, the first woman to receive an Oxford professorship. Then in 1944, Dr. Mann "succumbed to matrimony," finally marrying William Gye, the director of the Imperial Cancer Council Laboratories at Mill Hill.

Not long after the war ended, ill health led her husband to retire. At the time, Dr. Mann was juggling post-war clinical and administrative battles at both Oxford University and Moorfields Eye Hospital. Combined with the challenges of reconciling public and private clinical practice and patient care, and the start of the National Health Scheme (NHS) in the UK, they decided it was time for a change, and a fresh start in Australia. With characteristic pragmatism, a need for warmer weather, family connections via Ida's Australian cousins, and the prospect of new adventures, Ida took three months leave from Oxford University and Moorfields, and in 1949, the couple went by ship to Australia. After finally settling on Perth as their new home, Dr. Mann's resignation from Oxford and Moorfields was swiftly executed, and the next phase of her life unfolded.

From the  
Editor's  
Desk



## You Can't Always Believe What You Hear

By Alfredo A. Sadun, MD, PhD

When I was about 7 years old, I watched as many small fish in a lake swirled around in a school.

“Why do fish school?” I wondered. Their coordinated motion mesmerized me. I asked my mother why they did that. She was a Harvard educated geneticist with great academic bona-fides at a time when this was very rare for a woman. She told me and later repeated that there was safety in numbers.

I asked something like, “Will the small fish gang up and attack the bigger fish coming to prey on them?”

“No”, she answered, “they’re not that well-organized. But with so many small fish the odds are better for each fish not to be the one who is eaten.”

Every few years, I would ask her again, since for me there was something wrong with that reasoning. And at school I asked my biology teacher the same thing and got more or less the same answer. I’ll call this answer the “Bear Answer” since it’s captured in an old joke: Two men were camping out in the wild when they came across a grizzly bear who started to give chase. One man quickly tied on his running shoes and the other said to him, “What are you

thinking? You can’t outrun a bear.” The man with the new fast shoes, answers. “I don’t have to outrun the bear; I just have to outrun you.”

I’m going to explain in this editorial why the “Bear Answer” strategy might work with a grizzly giving chase but doesn’t really work for fish or in lots of similar scenarios. But the bigger point is that everyone keeps repeating the wrong answer, though I admit it is attractive at some level. And humans are very vulnerable to succumbing to the thinking that common knowledge must be right and hence is common sense and thus is wisdom. Let’s look at the evidence for why this thinking, both specifically and more globally, is wrong and then we can consider the new threat that comes from ChatGPT and other forms of artificial intelligence-derived information.

One day, about 20 years ago, I had an epiphany. I remember distinctly where and when. I was walking through the University of Southern California campus and talking by cell phone to my brother who was, at the time, a professor of physics in Atlanta. In states like Georgia there are cicadas. These insects can be rather loud, and I had trouble hearing my brother for the background noise that they made and that I recognized. I had spent a few years living in the South and I knew the buzzing of cicadas well. Cicadas are interesting.

Cicadas are large bugs with chunky bodies who make a lot of noise to attract mates. Their noise attracts birds, and they make no attempt to hide. They live in temperate to tropical climates. The North American variety spend most of their lives as underground nymphs. But what is amazing and awesome, is that they emerge from the ground or from under bark in set intervals of 13 (or 17) years, depending on the location. They “disappear” for 13 years and then pop up to eat, grow and have sex for a few weeks. Why? How weird is that? They are plump and juicy and make no effort to escape the many birds that gorge on them when they

come out. And, by the way, they never pop up in the wrong years.

My epiphany was that the important year was not the year they came out. It was the intervening 12 years that deprived the birds from feasting on them. Hence, no bird could depend on this diet or, worse, evolve to become a cicada-eating specialist. Those 12 years made cicadas less reliable as prey, and any predator that started to evolve to depend on cicadas would starve waiting for their emergence. My mind immediately thought of the fish school — that school.

Where else do we see this? In World War II, America sent large numbers of merchant marine ships to England, and, later, ports along the north coast of Russia. German submarines lay in wait to sink as many ships as they could. The U.S. strategy was to concentrate destroyers near our east coast ports and also near the ports of call in England. In between, we did something very strategic. We massed the boats into large convoys.

This was thought by some to be foolish as there were only two or three destroyers that could be assigned to each convoy, and this was not sufficient to screen against the many wolfpack U-boats. The merchant ships were hardly armed at all and could not put up much of a fight. They were sitting ducks and more visible for being in large convoys. And the strategy was indeed controversial. But wise heads prevailed.

The convoys weren’t so much to protect the merchant ships after being found; they were to make them less likely to be encountered. The ocean is huge and by concentrating and traveling in zigzag, they were less likely to be found by the German wolf packs. So, ships school as convoys as do fish, not to fight off the predator and not even to reduce the odds of a given loss, but to lessen the total numbers of encounters in the ocean.

A 7-year-old today wouldn’t ask his mother or teacher, but

## From the Editor's Desk

rather check with ChatGPT. And what does ChatGPT (4.0) say?

Q: Why do fish school?  
“Protection: By swimming in groups, fish reduce their individual chances of being targeted by predators. Being in a group means that the chance of any one individual being caught is reduced. This is known as the “dilution effect.” If a predator attacks a school, the risk of being the one caught is spread out over many individuals, thus reducing the individual risk for each fish.” That’s pretty much what my mother said.

More importantly, it is not surprising, given how many people say the same thing in print. But that’s the thing. You can’t trust ChatGPT won’t confuse frequent answers with correct ones. I suppose I’m being arrogant. After all, although it’s true that I’ve been thinking about this for almost 70 years and ChatGPT 4.0 took less than one second, it’s obviously a lot smarter than me. After all, it has access to the entire internet.

But ChatGPT is wrong. The dilution effect would work regardless of schooling. The large ocean is filled with fish and if the dilution effect works along the lines of the ChatGPT argument to frustrate the predator fish, then the predators would not have evolved to encourage it. In fact, fish like tuna work together to encourage the schooling of their prey. And so, do killer whales.

Orcas swim in circles around the school to pack it tighter and tighter before plunging in to get their fill. How could it be advantageous to both the prey and the predator for schools to form? This is a zero-sum game. As I suggested with cicadas, it’s about creating gaps in space and time that is the secret. Millions of years of evolution can’t be wrong.

ChatGPT doesn’t understand rules or reasoning. The reason schooling works for fish is not dilution but absence. There will be larger tracts in

the ocean devoid of fish. Predators wandering through the ocean will encounter fewer prey, and this will limit their growth and fecundity. There will be fewer predators in the ocean. Just as there were fewer birds that became devoted to cicada eating. Absence not only makes the heart grow fonder but keeps the predators in check. But I couldn’t get ChatGPT to understand.

ChatGPT is wrong. My mother was wrong (she was just reflexively repeating the answer she heard from her teachers — when I later presented my thinking to her, she agreed and doodled out the math that modeled the situation). Many teachers who passed along the wrong group were also wrong. But people are more likely to believe ChatGPT.

One big take-home point is that wrong answers are ubiquitous, especially when they come from people who aren’t the experts. Scientists spend a lot of time questioning their assumptions. Most others don’t.

Don’t believe all conventional answers. Truth is not democratic; however, we are now in a world where popular answers, fueled by the internet, are given credence over deep thinking from well credentialed authorities. Several times, I’ve encountered patients who just didn’t believe me, even in areas where I am an expert and have published extensively. When I asked them why they were rejecting my conclusions, they answered, “I’ve done my own research.” By this they meant they had researched social media.

I hope that those long years of PhD training taught me what real research is like. And it’s hard. You have to read a lot of references, compare them, toss out those that come from questionable sources, understand ascertainment bias, logical errors, and the limits of extrapolation from the population studies to the more general population. Does ChatGPT do that? I don’t think so. ChatGPT is a “stochastic parrot.”

This is an apt term coined by Emily M. Bender at the University



People say fish school for self-protection, yet their prey encourage the schooling. How can it be both good for predator and prey?

of Washington to remind us that ChatGPT is pretty random and repeats what it hears (without understanding). ChatGPT and other tools of AI will provide us with more and more information and conveniently place it at our fingertips, but we will lose the ability to filter it for significance, depth or even truth. With ChatGPT we cannot separate the wheat of truth from the chaff of nonsense. And like the patient who calmly explained to me that she didn’t need my expert opinion because she had already done her own research, most people will fall into the lazy habit of lowering the bar of truth. They will accept mediocre and even faulty knowledge without reference to authority, expertise, and deeper thinking. At best, everyone will be a jack of all trades but master of none. At worst, we’ll all be like kindergarten children mindlessly repeating the last thing we heard on the playground.

Socrates (as reported by Plato) said that in a democratic society of equals, knowledge will become a “corruption of the majority and people will make ill-informed and foolish decisions.” After more than two thousand years, ChatGPT may prove him right.

# What's in a Name?

By Samuel Masket, MD

“What’s in a name? That which we call a rose by any other name would smell as sweet,” Juliet Capulet declared in William Shakespeare’s play “Romeo and Juliet.” It’s the same for Academy lifetime members.

And so, the Academy’s Senior Ophthalmologist Committee has been renamed as the Lifetime Engaged Ophthalmologist Committee.

I joined the Senior Ophthalmologist (SO) Committee in 2015, and the first meeting that I attended was held at the Academy headquarters on Beach Street in San Francisco. I entered the conference room with mixed feelings of excitement and intimidation, as many past and then current committee members were also Academy past presidents. As new and returning members were informally greeting one another in advance of the agenda, the outgoing committee chair peered directly at me and said, “Sam, your first job is to change the name of this committee!”

That was nine years ago, and now considerable thought and time have been expended to arrive at our new name, the Lifetime Engaged Ophthalmologist Committee, representing lifetime engaged members.

The term “senior ophthalmologist” has been permanently retired. Until now, the SO designation was applied automatically to all Academy members and fellows who had reached 60 years of age. When garnering badge ribbons during registration at the Academy’s annual meeting, many members, new to the demographic designation, were caught by the surprise of “sticker shock” when they got the SO ribbon. Perhaps not surprisingly, a number of those ribbons could be noted on the floor

adjacent nearby trash bins as some colleagues were unprepared to be referred to and accept the position as “senior” at 60 years old.

To many, that designation carried a negative connotation, and this was likely the main reason that I was charged, perhaps tongue in cheek, with the task of renaming the committee. For some, the term “senior” generally connotes the burdens of advancing age and the potential for loss of one’s sense of value and professional importance. Although that concept is an unfortunate interpretation of the aging process, the fact is that few, if any of us, enjoy the prospects of aging as our society tends to place inordinate value on youth, rather than celebrate the wisdom and respect that can be gained over time.

It is also quite true that at age 60, many of us are and have the sense of being in our prime, as we have heard on more than one occasion, that “60 is the new 40.” In addition, owing to demographic changes of the Academy’s membership over time, in 2023 SOs accounted for 43% of the total Academy membership, up from 35% just nine years earlier.

This indicates that as a profession, we are aging. But more significantly, 90% of the membership between age 60 and 64 remain active, suggesting that as a profession we continue to work despite aging. To the committee, the data suggested that age of inclusion in the new Lifetime Engaged Ophthalmologist designation should rise from 60 to 65 years old in order for the committee to better address and appropriately serve the needs of the demographic.

In keeping with the desires and needs of its members, the Academy has eliminated the SO designation and established the new Lifetime Engaged Ophthalmologist designation for all members

above 65 years of age. With the new designation, we will constitute just under 35% of the membership, and in keeping with the 2013 analysis. Those previously categorized as a SO and not yet reached the age of 65 will automatically stay in our demographic, but no new members will be added to the category until they reach age 65.

By raising the age of eligibility, the committee has the strong sense that those members and fellows among us who remain active will truly wish to participate in the Academy, contributing as Lifetime Engaged Ophthalmologists.

More importantly, we anticipate that we will continue to be active, give presentations, sit on committees, mentor young ophthalmologists, and in many ways make important contributions to the Academy community.

## Alfredo Sadun, MD, PhD: A New Perspective

You may have noticed the change in the masthead which involves a new name for this publication. Moving forward, “Scope” will be renamed “**Perspective.**”

“Perspective” captures the sense and purpose of the journal for Lifetime Engaged Ophthalmologists. *Perspective* will continue to address issues of relevance to us. Most of the articles will be useful as well as interesting to all ophthalmologists. But the perspective will largely be from the point of view of ophthalmologists whose careers and experiences will enrich the discussions.

*Perspective* will continue to include editorials, historical reviews, and vignettes, past and present, that inform as well as entertain.

We think you will enjoy our *Perspective*.

## A Look at Iris Photography

By Aubrey Minshew, MA

Here at the Truhlsen-Marmor Museum of the Eye®, we have noticed a recent uptick in the popularity of iris photography — that’s when a photographer takes a high-resolution photograph of a person’s eye and then edits it into an art print of their iris.

In fact, this product has gotten so popular that people often mistake the museum for one of these photography studios. With this newfound popularity, it’s worth looking at the history of examining human irises, how people use the images today, and why we don’t offer this type of photography at the museum.

In 1893, Hungarian scientist Ignaz Peczely (1826-1911) produced the first known anatomically accurate drawing of a human iris. His accomplishment was accompanied by the dubious claim that he could “read” the unique features of an iris to detect disease or weakness in the body. Even more amazing, Peczely claimed to have discovered this link between iris features and health when he was just 11 years old! He was a boy when he noticed a black spot that appeared in the iris of an owl that had broken its leg.

When he got older, he produced a full map of the ridges of the human iris and paired them with specific medical issues. This system of Augendiagnostik, generally translated as “iridology,” has been disproven by numerous scientific studies. In fact, we now know that iris

texture develops in utero and our irises do not undergo significant changes as we age other than the changes in babies’ eye



The Biometric Automated Tool Set System, a U.S. military biometric processing system (2006).

color in early life or as a side effect of certain medications.

In the late 1800s, photography was not sophisticated enough to produce the kinds of iris photographs available commercially today, but images of irises were being made for identification purposes. M. Alphonse Bertillon (1853-1914), a French police officer and researcher, spent his career advocating for a criminal identification system based on specific body measurements (e.g., head length, head breadth, finger length).

Bertillon recognized that iris color was a unique characteristic that could be measured and, in 1886, he suggested that irises could be used to catch repeat criminal offenders. His 1893 book, “Identification Anthropometrique,” provided a detailed, hand drawn chart of what he saw as all the possible options for human eye color. His system of measurements, now considered to be an early form of biometrics, was eventually supplanted by fingerprint identification. Bertillon’s method of iris identification didn’t last but one of his innovations, the mugshot, remains a staple of criminal investigation.

As Bertillon observed, everyone’s “iris-print” is as unique as their fingerprint. Today, infrared cameras can be used to capture iris patterns in great detail. These images are then stored in computers and servers as unique biometric identifiers. The first iris recognition system was patented by two ophthalmologists in 1987. Since then, these systems have only gotten more precise and easier to access. An iris scan can now help you access a bank



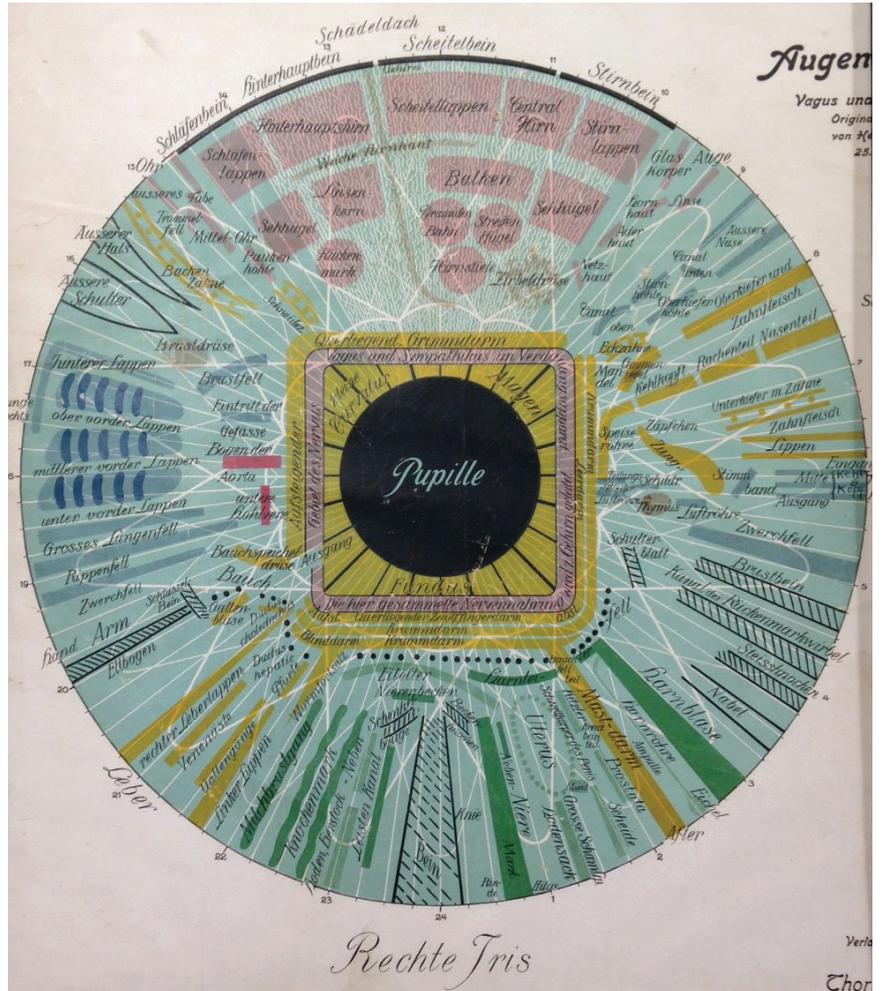
A human iris used in museum marketing.

## A Look at Iris Photography

account, unlock a door, or get you through airport security.

So why don't we offer iris photography at the Museum of the Eye? Although the idea is fun, it's a matter of security — specifically, your security. Your iris is so unique, it can be used in place of a password or passcode on some of the most valuable things in your life, such as your home or your bank account. The museum does not want to be responsible for keeping your biometrics safe. This is not to say that you shouldn't seek out an iris photography studio, but it's worth taking a look at how the company you choose protects, deletes, or shares your biometric data.

While we are reviewing the history and uses of irises, let's not forget to take a moment to appreciate that iris patterns aren't just a biometric. They are also one of the many beautiful things that make you, uniquely you.



Iridology chart, 19th century.



"Table of the Nuances of the Human Iris," from M. Alphonse Bertillon's 1893 book.

# Now You Know: Clinician Burnout Is a Reality

By Eve J. Higginbotham, MD, SM, ML

The saying, “If you didn’t know, now you know,” is not intended to be either sarcastic or presumptive of what a colleague may or may not understand regarding an observation or a topic.

On the contrary, its use in this context is intended to inspire curiosity, appeal to those who may wish to explore topics beyond usual choices and address any misunderstandings in the moment. Based on the interest of our editorial board, my goal is to offer brief articles on topics not usually found in either of our blue or yellow journal in our field. At some point in the future, we will explore the origin of the phrase, however given the depth of interest and the importance of clinician burnout, I will save that discussion for another time in the future.

Over the course of my career, I have expanded my interests beyond ophthalmology. However, given recent events in our field, burnout is a topic that we should more deeply understand that affects our very own discipline as well as others. I will review what we know about ophthalmologist burnout, what is being done about it, and how we may be part of strategies to address burnout, both organizationally and individually.

Although *Perspective* has previously covered clinician burnout, it may be helpful to restate the origin of the term and the definition. “Burnout” was initially described by a psychiatrist in the 1970s when he described his patients who were so spiritless that after lighting a ciga-



Dr. Higginbotham pictured with her previous scribe, Ms. Dominique Alexis, who is now in medical school at SUNY Upstate Medical University. She is applying to ophthalmology residency this in 2024 and has been a participant in the Academy’s Minority in Ophthalmology Mentoring program since 2021. The use of scribes can mitigate the pressures of seeing patients and reduce the potential of burnout.

rette, the unattended cigarette was allowed to simply burn to ashes.

Ophthalmology, particularly when I was considering my choice of specialties more than 40 years ago, was once considered one the happiest subspecialties. In fact, most of our colleagues are still very satisfied with their choice of specialty and continue to experience the *joie de vivre* caring for patients. We have all experienced the need to sustain high volumes of patients seeking care to keep up with demand and the toll of seeing enough patients to maintain the financial viability of modern practice. I believe those of us who have practiced for many years remember the days when some colleagues routinely saw 10 to 20 patients in a day, and now those numbers have increased to 50 or 60 patients in a day.

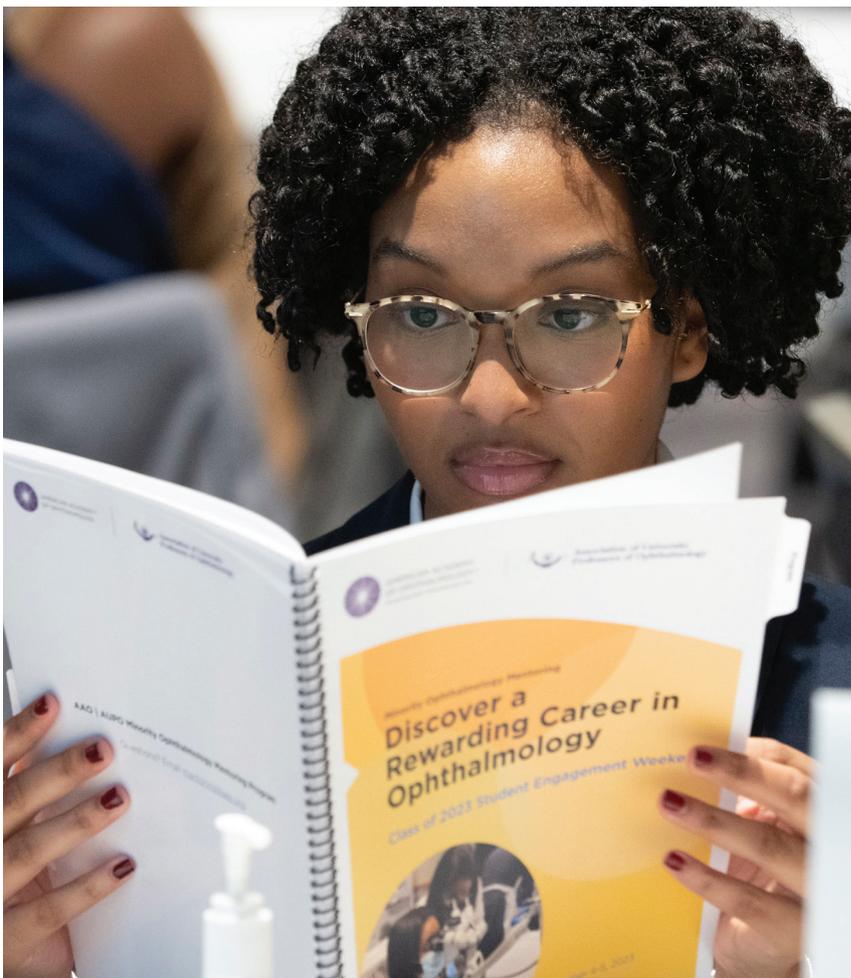
By the mid ’90s, this reality changed, when it was evident that higher patient throughput was necessary to survive. As a result of the increased pressures, of which patient load may be only one of many contributors, some colleagues may experience symptoms of depression and turn to excessive substance use, negatively impacting productivity in the workplace and relationships. A recent article published in 2022 by Sedhom and co-workers examined the topic of physician burnout in ophthalmology. The authors noted that an online survey conducted in 2020 revealed

## Now You Know: Clinician Burnout is a Reality

an overall 37% rate of burnout for our discipline, ranking us towards the bottom of the list of specialties. However, if one examines our resident population, the rate of burnout is higher at 63%. Sedhom and coworkers assessed the severity of burnout among nearly 600 ophthalmologist who responded to a survey. These investigators reported that 37.8% of respondents reported burnout symptoms, ranging from 30.8% among vitreoretinal specialists to 45.4% among ophthalmologists specializing in uveitis. Most individuals revealed mild symptoms at 65.2% and higher rates were noted among women, those employed in academic settings, and hospitals. Lack of alignment with leadership was one of the important factors.

Ordinarily, *Perspective* does not take on such difficult topics at clinician burnout. However, I needed to provide a context before transitioning to a point in the article of where we as seasoned ophthalmologists may be helpful to our colleagues. First, we need to acknowledge the pressures that currently exist in modern ophthalmic practice. By assuming there is no problem does not diminish the impact. Considering the importance of awareness of the issue, the National Academy of Medicine's Action Collaborative on Clinician Well-Being and Resilience declared March 18, 2024, as national Health Workforce Well-Being Day. This collaborative, launched in 2017, has three goals:

- Increase awareness regarding clinician anxiety, burnout, and suicide.
- Improve our understanding regarding the contributors to challenges to clinician well-being.
- Advance the rigor of determining the “solutions to improve patient care by caring for the caregiver.”



The group has also provided a number of resources which can guide organizations and individual practices in finding relevant solutions to address well-being of our colleagues. As an ophthalmic professional community, we can prepare for next year's Health Workforce Well-Being Day. Acknowledging the issue at the highest levels of leadership is a first step in implementing strategies to more effectively support clinicians in their daily work.

At AAO 2024 in Chicago in October, the Lifetime Engaged Ophthalmologist Committee will host a networking session in its lounge to provide our members the opportunity to connect with young ophthalmologists (YOs) who are just getting started in their careers. This networking opportunity will hopefully launch a constructive mentor-mentee relationship between professionals from two generations. Whether or

not such relationships will mitigate the rates of burnout remains to be seen. However, it is a starting point to create a relationship with an ophthalmologist early in their career. These relationships can not only be helpful to the mentee but also fulfilling for the mentor.

So, what is a role of an effective mentor? The following are few suggested attributes to consider:

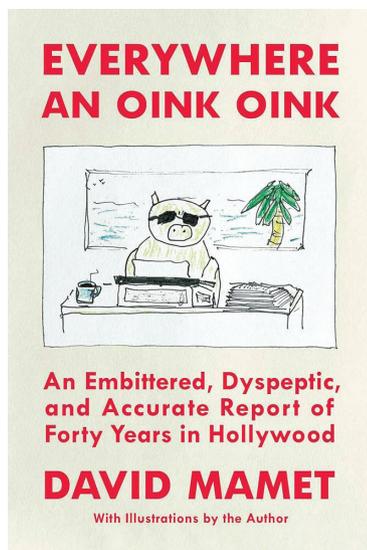
- Provide candid feedback.
- Discuss strategies for managing interpersonal politics.
- Set aside meetings on your calendar for regular mentoring.
- Advise YOs on executive presence and communications.
- Guide YOs in development of an intentional and strategic plan for career advancement.
- Provide an opportunity to shadow you if you still practice.

I look forward to seeing you at AAO 2024 in Chicago this October.

## What We're Reading This Spring 2024

Book Review Editor, Robert L. Stamper, MD

**A**cademy members share the best of what they're reading this spring. Share what you're reading and send your review to our book review editor, Robert L. Stamper, MD, at [perspective@aa.org](mailto:perspective@aa.org).



***Everywhere an Oink Oink: An Embittered, Dyspeptic, and Accurate Report of 40 Years in Hollywood***  
By David Mamet  
Reviewed by J. Kemper Campbell, MD

When David Mamet received a Pulitzer Prize for his play, “Glen-garry Glen Ross,” it allowed him to move to California in 1980 to write screenplays and books and to direct movies.

Mamet’s newest book, “Everywhere an Oink Oink,” chronicles four decades of experience in Hollywood and profound disgust with today’s movie scene.

His skewering of the multitude of producers, associate producers, and nonessential corporate parasites who are involved in a movie can be vicious. Mamet, now 76 and living in Santa Monica, believes much human behavior is motivated by greed for money and self-interest. His best plays mirror this philosophy.

As a Jewish conservative who does not fear sharing his opinions freely, he has a reputation as a difficult writer and director. He feels the present subservience to the “woke” agenda of DEI (diversity, equity, and inclusion) has resulted in the demise of meaningful filmmaking.

Lest the reader think this will be simply a jaded screed against Hollywood, Mamet proves to be a true aficionado of all films stretching back to the silent era. His four

*Lest the reader think this will be simply a jaded screed against Hollywood, Mamet proves to be a true aficionado of all films stretching back to the silent era.*

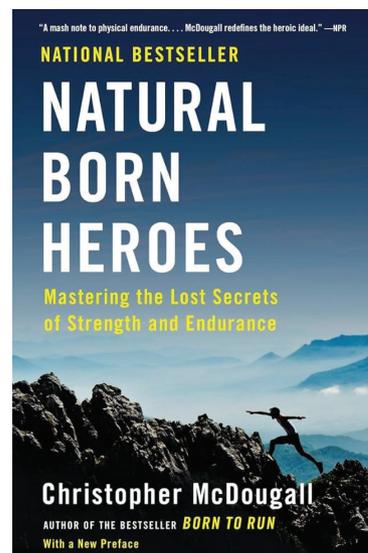
decades of experience in the film industry have resulted in his personal exposure to Hollywood’s most famous lights and his many anecdotes are often light-hearted. Icons like Walt Disney, Robert DeNiro, and Jack Nicholson are not spared. Although most of the stories will be deemed “gossip”, Mamet avers that “trivia is gossip without malice” and mostly adheres to that dictum.

A brief perusal of the book’s index reveals personalities from Ben Affleck to Darryl Zanuck and movies from “About Last Night”

to “Zulu” found within the pages. A warning to those who are not familiar with Mamet’s works is necessary at this point. F-bombs flourish on most pages like dandelions in a Spring backyard. Mamet’s own drawings also decorate the pages. Some are whimsical and others simply cryptic.

His list of stars who changed their Jewish surnames to fit into the approved movie star formula is matched by the list of ethnic actors whose roles were played by white actors in makeup, and gay entertainers were advised to languish in the closet.

To summarize, the book is recommended to any reader who grew up during the years when a trip to the neighborhood cinema could be a biweekly experience to enjoy air-cooled comfort and hot popcorn without having to apply for a loan. Regardless of the personal peccadillos of the actors, directors, and producers of the films, the result was entertainment in its purest form.



***Natural Born Heroes: How a Daring Band of Misfits Mastered the Lost Secrets of Strength and Endurance***

By Christopher MacDougall  
Reviewed by Robert Abel Jr., MD

Christopher MacDougall tells the true story of a small band of British operatives, called the Special Operations Executive

## What We're Reading

(SOE) who assisted the Cretan resistance against the Nazi German forces in World War II.

The narrative unfolds on the island of Crete whose relative anonymity belies the profound influence its mythology, archaeology, and linguistics had on Western civilization. The Nazis needed to control Crete to provide a secure supply line for the upcoming Operation Barbarossa

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*Some Cretans could run 50-100 miles in a day over mountainous terrain on very little sustenance. The lean efficient forces of their fascia, the powerful connective tissue that is like a rubber band, was the secret to their strength and endurance.*

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(the invasion and conquest of Russia). The Cretan resistance augmented by the SOE was a significant barrier to that goal.

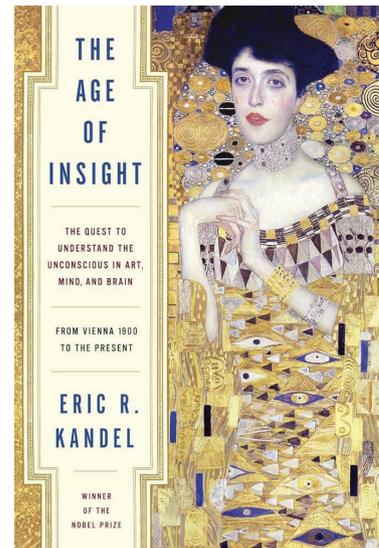
British Prime Minister Winston Churchill understood that he could not defeat a dominant German military without the means of subterfuge and sabotage.

Therefore, he ordered the SOE to create a department of dirty tricks to train ordinary citizens to perform extraordinary deeds. Several were imported to assist the Cretan resistance in 1944. The main thread of the book describes how 100,000 Germans failed to quash the resistance. Au contraire, the English operatives and the resistance kidnapped a German general in broad daylight.

Some Cretans could run 50-100 miles in a day over mountainous terrain on very little sustenance. The lean efficient forces of their fascia, the powerful connective tissue that is like a rubber band, was the secret to their strength and endurance. And their willingness to do whatever it took to defeat the enemy was amazing. Because of the German failure to conquer the resistance, Operation Barbarossa was delayed enough to ensure failure on the eastern front and, ultimately, to contribute to Germany's losing World War II.

“Natural Born Heroes” also reveals that Crete, regarded as the birthplace of Zeus, was replete with myths and heroes. During this time archaeologist John Pendlebury discovered King Minos' labyrinth and the truth behind the legend of the Minotaur. He also identified that many Greek myths may be based on real events. The author also was able to extract the physiology, diet, and training that enabled these otherwise ordinary men to attain such amazing physical feats with lessons for today's actual and would-be athletes. Perhaps, the mythical superheroes were just people who knew how to exploit human physiology to its extreme.

What is heroism? In this case, the history of Cretan heroism was a commitment to bravery, independent thinking, endurance, and teamwork. Unsung heroes are born every day. To my colleagues what you have accomplished in your compassionate and dedicated lives is also truly heroic.



### *The Age of Insight: The Quest to Understand the Unconscious in Art, Mind, and Brain from Vienna 1900 to the Present*

By Eric R. Kandel

Reviewed by Alfredo Sadun, MD, PhD

Eric R. Kandel is a neuroscientist who won the Nobel Prize in 2000.

I knew Dr. Kandel from my time at Woods Hole and Columbia and even then, I was amazed that he knew so much about so many things. He went from his residency in psychiatry to a post-doctoral fellowship in Paris to learn about the marine mollusk, *Aplysia*, where he identified and studied each and every neuron.

But, he never lost his taste for understanding the human mind and appreciating human behavior. So maybe it was not so surprising that this world renown scientist wrote “The Age of Insight,” which taught me a great deal about how to appreciate art. His book explores the intersection between art and science, in the setting of fin de siècle (1900) Vienna which was, at the time, the cultural capital of Europe.

Dr. Kandel weaved together the worlds of Viennese modernist art, medicine, brain science, and Freudian psychology to create a compelling story about the biology of mind. The one constant is the vibrant culture of Vienna in the early 20th century. This is where rich intellectuals patronized the arts and sciences

## What We're Reading

through their salons. His book introduces us to the creative new artists of expressionism like Gustav Klimt, Oskar Kokoschka, and Egon Leo Adolf Ludwig Schiele and learn how they related to psychiatrists like Sigmund Freud or novelists like Arthur Schnitzler. This book is a much more serious version of the comedy by Woody Allen's movie "Midnight in Paris." Both book and film make you wish you were there to listen to the luminaries at the cafés and salons.

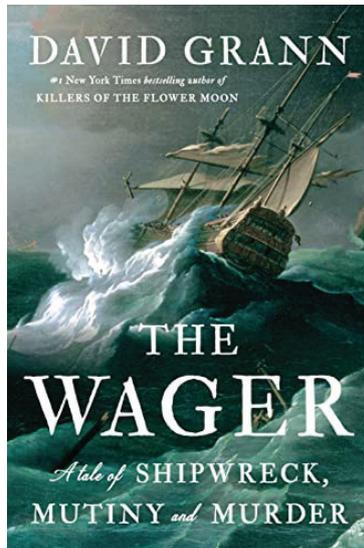
At the core of the book, we have the perspective of Dr. Kandel, the neuroscientist. His science was remarkably reductive and so is his analysis of art and culture. He shows how these particular artists and scientists were actually trying to probe the depths of the human psyche. They each sought to understand the nature and basis of emotion, perception, and understanding.

In making these explorations, Dr. Kandel demonstrates the remarkable parallels between the revolutionary techniques of these artists and the evolving understanding of the mind. Dr. Kandel describes these artists and writers as early cognitive psychologists. The detailed scientific discussions were sometimes very deep. Why does frontotemporal dementia increase artistic creativity?

Dr. Kandel was a reductionist, but he doesn't neglect the grand design. The brain is a creativity machine, he often repeats. And then another deep dive into the experiments of nature and how they illuminate the normal workings of the brain. What he proposes is that these artists and novelists were actually neuroscientists experimenting with recent discoveries in psychology to test how we see and perceive.

For example, some took advantage of complicated equivalents of optical illusions to gain immediate access to deeper feelings. Throughout it all, you see Dr. Kandel's passion for both art and science. Dr. Kandel is not only an art connoisseur, and a world

class scientist; he is a philosopher at heart and this last attribute allows him to inspire us with the many sides of the human mind and to understand the meaning of creativity.



### *The Wager: A Tale of Shipwreck, Mutiny and Murder*

By David Grann

Reviewed by Robert Stamper, MD

Remember "Lord of the Flies?"

That novel and subsequent movie startled us all with its depiction of a group of English school boys stranded on a desert island without adult guidance. Well, the author of this nonfiction work gives us a similar story of a large group of grown men similarly stuck on the proverbial desert island.

The subtitle gives away the skeleton of this true but hardly believable story. It was 1740 (before the advent of clocks allowing accurate navigation), the British were at war with their arch enemy Spain. The plan was to send out a small flotilla of wooden sailing ships to try and capture some gold-laden galleons from the Spanish colonies in the western part of South America. Five "warships" and one scout vessel were commissioned along with some 2,000 men — some veteran seamen, many impressed into service by force, a few for the sake of adventure and potential wealth, and some 1,000 soldiers.

The voyage from England to the coast of Brazil (a Portuguese colony not at war with England) took over three months with many of the crew dead or dying from scurvy. The trip around Cape Horn was almost as long and extremely dangerous between terrible, unpredictable currents, storms, and almost no visibility. Some boats were lost in this part of the passage. The *Wager*, a boat meant as a merchant vessel and recommissioned as a warship, was captained by an ambitious seaman in his first command.

After squeaking through the horrors of the Cape Horn passage and finding itself separated from the rest of the flotilla, the boat sailed up the west coast of Chile and then foundered on a bleak, tiny, deserted island part way up the Patagonian coast. Some 200 men were left of the 400-plus that had set sail.

It was "Wager on the Rocks," but the crew was able to save some provisions, munitions, and wood from the remains. The island was essentially barren except for some wild celery and spinach-like plants. They had essentially no hope of rescue. Rationing of the salvaged supplies was mandatory but not popular. Deaths and total disability from scurvy and starvation became rampant. (The end stages of scurvy can produce some major mental changes).

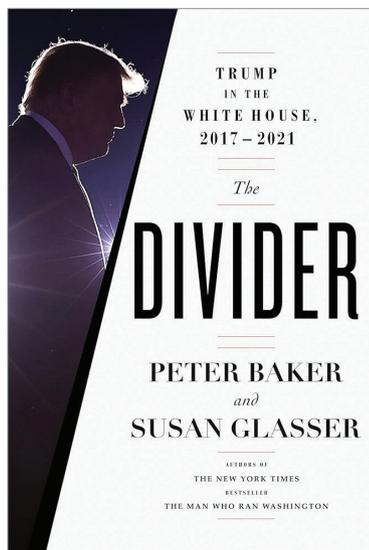
Rogue groups formed who raided the munitions and other supplies and separated themselves from the main group. The survivors were able to build a sailboat from the salvage. A mutinous group commandeered this seemingly unworthy craft and most of the remaining supplies. Leaving with roughly 100 men, they sailed this craft back around through the Straits of Magellan to Brazil, where 30 starving, delirious, scarecrow-like men made it alive. Eventually they made it back to England where they were treated as heroes.

In the meantime, back to our not quite deserted island where the stranded officers and a few loyal seamen were left to starve to death. They were able to salvage more wood

## What We're Reading

from the Wager, enough to build a tiny sailboat. Knowing they could not make it back around the tip of South America, they managed to find an inland passage to a city in Chile. The few pitiful survivors including the captain and Lord Byron's (the poet) great-grandfather were detained as prisoners of war.

Eventually released, they too made it back to England to tell a very different story about what happened on that island. Was it mutiny? If so, all of the first group would be hung. Was it justifiable due to the action of the captain? In that case, it would be the captain who would be hung. How this all resolved is an interesting commentary on the military justice and politics of the time. This fast-paced, highly readable, and well-documented account seems like a novel. Yet, it is a real and scary depiction of what can happen to basically good men in extreme deprivation.



### *The Divider: Trump in the White House*

By Peter Baker and Susan Glasser  
Reviewed by Samuel Masket, MD

Given that we are in a presidential election year, “The Divider,” a virtual diary of the goings on in the Trump White House by the husband-and-wife team of Peter

Baker and Susan Glasser, makes for more than an interesting read.

Although people often look back with positive nostalgia, and some tend to think that “we were better off four years ago,” this book offers an insider’s view and quite a sober look at the period from the 2016 election cycle through the insurrectionist actions of Jan. 6, 2021.

Baker, *The New York Times* chief White House correspondent and Glasser, a staff writer for *The New Yorker*, combine their decades of experience in D.C. to draw upon a variety of materials including original interviews, memoirs, journalistic accounts, writings of well-respected colleagues (Bob Woodward, as an example), etc. to portray an atmosphere of infighting, backstabbing, chaos, and impulsive behavior in the oval office. The reader gets a true sense of being there.

Although it is apparent that the authors are not supporters of the ex-president, their professionalism is apparent; they avoid supporting some of the (likely) false conspiracy theories surrounding Trump’s activities in Russia that led up to the Mueller investigation. However, they were clear in pointing out Trump’s deference to Putin at the 2018 Helsinki summit, where Trump indicated that he would trust Putin’s word over that of the well-established U.S. intelligence agencies.

The authors also mention the 2019 situation when Trump indicated that aid to Ukraine was dependent on their delivery of “dirt” on then-candidate Joe Biden; this action led to the first impeachment of Donald Trump.

Some of their insights challenge the reader’s imagination. For one instance, when Trump had secured the 2016 Republican nomination for president, and he and advisers were vetting VP candidates, he nixed Nikki Haley because in his view her facial complexion (likely modestly scarred from adolescent acne) would make him look bad, and to Trump, image is everything.

Along those lines, on the day of his inauguration on Jan. 20, 2017, on entering the Oval Office, he was all consumed about the quality of the available light for picture taking. His perceived self-image seemingly “trumped” all other facets of presidential decision making.

We constantly learn about squabbles among staff members and the mandatory loyalty oath to Trump, rather than to the rule of or to the

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*Although it is apparent that the authors are not supporters of the ex-president, their professionalism is apparent; they avoid supporting some of the (likely) false conspiracy theories.*

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spirit of the law. This manifests itself most emphatically with Trump’s attempts to stay in power despite losing the popular vote and the electoral college in the 2020 election.

Through roughly 650 pages, we are witness to those who were Trump sycophants and those who opted to leave the White House for various reasons. There were a few however, Gen. Mark Milley, chairman of the Joint Chiefs of Staff, as a prime example, who understood that his duty was to the Constitution, acted in the best interests of the country, rather than the inappropriate wishes of the president. Some staff members lingered for a while because they feared that their departure would result in dire consequences to the country.

To my sense, all should be aware of the information in this important book as we prepare to elect a president in 2024.

## News From the Foundation

By Gregory L. Skuta, MD, Chair, Foundation Advisory Board

### JOIN THE PARKE CENTER CAMPAIGN AND TRANSFORM THE FUTURE OF EYE CARE

The Parke Center will be a multiconference room facility located on the ground floor of the American Academy of Ophthalmology's landmark San Francisco headquarters.

The [Parke Center](#) is named for David W. Parke II, MD, the Academy's CEO from 2009 to 2022, in honor of his leadership at the Academy and throughout his career.

This state-of-the-art center will be a hub for ophthalmic collaborators and partners, who will use the space for teaching and conferences. In-person, hybrid, and remote conferences will accelerate learning across the globe through cutting-edge technology. The Parke Center will feature three large conference rooms, a mid-size conference room, fully configurable lounge, and catering kitchen and is adjacent to a landscaped courtyard. A beautiful digital donor wall will recognize those who support this investment in our future and in the Academy's mission to protect sight and empower lives. Groundbreaking is set for May 2024 with a grand opening in fall 2024.

We invite you to support this exciting center. For those who give \$1,000 or more, we will recognize you on the digital donor wall. You may also wish to create a lasting tribute with our "in memory of" or "in honor of" [naming options](#). Collaborate with colleagues, friends, or practice partners to name an area of your choice.

All donors who name an area will receive signage, digital donor wall recognition in the Parke Center

lobby, inclusion on the foundation's website, and acknowledgment in the foundation's annual report.

### YOUR LEGACY IS ESSENTIAL

The [1896 Legacy Society](#), named for the year the Academy was founded, is a special group of donors who have included the Foundation in their estate plans through cash gifts, bequests, or other planned gifts. 1896 Legacy Society members are integral to the Academy's mission and are regularly informed of our achievements, challenges, and future plans.

Our website provides important updates, tax-saving tips, and other ways to give back. For more information, visit [1896 Legacy Society](#) and choose "Other Smart Ways to Give."

We acknowledge all members who have made the Academy Foundation a part of their estate plans. I am proud to welcome and thank our newest members who have informed us of their planned gifts in the past year: George B. Bartley, MD; Linda L. Burk, MD; Herbert J. Ingraham, MD; John D. Sheppard, MD; and John A. Wolfe, MD.

You can view the complete list of [1896 Legacy Members](#) on our website. Joining is quick and easy; all we ask is that you notify us of your gift intention.

### NEW AT AAO 2024 CHICAGO: THE SATURDAY NIGHT CELEBRATION

On Saturday night, Oct. 19, the Academy will host the must-attend ticketed social event of the annual meeting, The Saturday Night Celebration from 7:30 p.m. to 10:30 p.m. Save the Date — more details to come!

## Perspective

Newsletter for the Lifetime Engaged Ophthalmologist

Ideas and opinions expressed in *Perspective* are those of the authors and editor and do not necessarily reflect any position of the American Academy of Ophthalmology.

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