After Jack Rootman obtained his doctor of medicine from the University of Alberta in 1968, he finished a residency in ophthalmology there in 1974. Fellowships in pathology at University of London, in orbital oncology at Columbia Presbyterian Hospital, New York, and in orbital diseases at Moorfields Eye Hospital in London followed. He served as clinical assistant professor of ophthalmology and pathology at the University of Alberta in 1973-75.

Then he went to the University of British Columbia in Vancouver to be associate professor of ophthalmology and pathology, 1976-84 and then professor of ophthalmology and pathology, Univ. B.C. In 1990, Dr. Rootman was appointed ophthalmology chairman at the University of British Columbia. He has had an illustrious career as chairman, as an expert in orbital anatomy and surgery and as a pathologist, and authored two important books, “Diseases of the Orbit: A Multidisciplinary Approach” and “Orbital Surgery: A Conceptual Approach.”

Today Scope focuses on Dr. Rootman because of his paintings. He has had at least 11 one-man shows in Canada, Singapore and Australia.

**Jack Rootman, MD:** I became interested in art during my early childhood when my mother sent me to a local art institute in Calgary, Alberta.

**Dr. Sadun:** How did you learn and train?

**Dr. Rootman:** I attended evening courses at the Emily Carr School of Art in Vancouver and completed a variety of courses including drawing, print making, painting with various media as well as studying the History of Art. In 1996, I took a sabbatical year as ophthalmology department chair at the University of British Columbia. This allowed me to go to New York City to study at the Art Students League as part of the New York Academy of Art. There I immersed myself in visiting art galleries of every description. This included being a student at the Art Institute that was endowed by Andy Warhol.

**Dr. Sadun:** Did Warhol’s revolutionary approach make an impression on you?

**Alfredo Sadun, MD, PhD:** Jack, thank you for letting us talk about and see your art. How and when did you become interested in art?

**Alfredo Sadun, MD, PhD:** Reflection of Jack and Jenny. Distorted mirror image surrounded by a flower bed.
What We’re Doing Today

Dr. Rootman: I wasn’t inclined to follow that direction. But you should know that Warhol’s art school, which he financially supported, emphasized classical teaching. And they had many realistic painters.

Dr. Sadun: Do you personally collect artwork extensively?

Dr. Rootman: My wife, Jenny Puterman, and I have been collecting art for many years. We focus on Canadian artists and some American artists. In addition, we have collected art from many of my art mentors. In fact, two of my teachers painted portraits of myself and Jenny.

Dr. Sadun: How are you inspired to do a painting?

Dr. Rootman: My inspiration largely derives from my journey which has involved using different media: watercolor, oil paint, pastel and acrylic. In addition, I purposely followed certain themes such as alpine meadows, rocky shorelines, and portraits. I also hired models to pose in various environments to study and express emotions. I would use various paintings and sketching techniques. I became a member of a studio group that studied figurative art.

In 1998, I developed rheumatoid arthritis, and this motivated a turn to painting miniatures and collage work. Once my arthritis was under control, I was able to undertake larger thematic paintings. Additionally, I have always maintained a strong interest in photography and have been recognized for some of my photographic images. Nowadays, my photography begins the process of inspiration for my digital art creativity.

Dr. Sadun: So, you experiment with different approaches?

Dr. Rootman: Resoundingly, yes! I use photography, painting, and I also use nontraditional materials in my work. For example, surgical drapes, and sand for imprinting on the painting.
Dr. Sadun: Do you, like many of the giants, go through phases of style?

Dr. Rootman: Well, yes. My main phases have gone through the trajectory of realistic, abstract and more recently, digital work.

Dr. Sadun: I asked you to show us some of your favorite pieces? Readers will see your art enclosed.

Dr. Rootman: See for yourself on my Instagram page.

Dr. Sadun: What are some of the things you have learned that came from painting?

Dr. Rootman: I learned to observe carefully, follow my intuition, be bold and use texture.

Dr. Sadun: And what did you learn of your subjects? Did art help you understand them?

Dr. Rootman: Yes, since I posed for the paintings as well, I got to understand the transference of personality and character. Largely, as the painter, I would work from a series of photographs of the subject, taken while the subject talked about himself or about his or her interests. And to this, I might add a three-to-four-hour sitting. Of course, I developed a better understanding of that person. The finished painting usually pleased the subject, but not necessarily the subject’s spouse. On one occasion, the husband found his wife depicted as too powerful! He might have been frightened by that.

Dr. Sadun: Have you found a connection between ophthalmology and painting?

Dr. Rootman: As a pathologist, ocular oncologist, and orbital surgeon, I was interested in perspectives, various viewpoints and the variation in color and texture. One interesting thing is that when I was doing surgery, I had to ask my residents to reserve questions and answers to later. I was in a visual mode and not able to easily converse.

Dr. Sadun: That’s amazing because I had the same issue. I don’t want to exaggerate and say I became aphasic, but maybe a little. While I was doing orbital surgery, I wasn’t articulate and had a very hard time finding words. What else would you like to add?

Dr. Rootman: I also learned a lot about imagery in the process of writing and illustrating scientific papers and books and working with a medical artist. We would communicate online or in person through drawings based on a human skull.

**What We’re Doing Today**

*Ode to Degas.* Image on the right is a painting by Cézanne entitled “The Card Players” and on the left is “The Absinthe Drinker” by Degas.

*Compress and stretch.* Water flowing around a large stone in a channeled stream showing what seems to be compression and expansion of the flow as seen by anglers.
How Do We Fight Aging?

By Alfredo A. Sadun, MD, PhD

You’ve seen the TV ads: You should buy the clinically proven memory molecule that has been extracted from the unusual animal that has defeated aging. They claim it will “boost your memory and cognitive ability.” They refer to Turritopsis dohrnii, the so-called “immortal jellyfish.”

The claim is that it can hit the reset button and revert to an earlier developmental stage, and thus the jellyfish will never die. That claim amazed me.

The truth is, of course, more complicated. When the jellyfish Turritopsis dohrnii dies it sinks to the ocean floor and falls apart. Then, some of its cells reaggregate into polyps, and some of these polyps emerge to become new jellyfish. That’s not so different from how the birds and the bees do it. In going back to a gamete form, there is some type of reset and refreshment that lets the progeny recapitulate the cycle of life. So, this jellyfish has two ways of reverting to an earlier life stage to begin anew. One is sexual and the other asexual. This ambiguously begs the question of whether the parent is the child or achieves immortality through children.

The agent they are selling is Prevagen that contains apoaequorin, a protein found in many types of jellyfish and not shown to either:

1) have any benefit to preserving jellyfish or human brain function, or 2) even being absorbed and then getting into brain tissues. Because Prevagen is an unapproved food supplement, testing is not required.

Common sense tells you that proteins get digested by stomach acids and gut enzymes. But the advertisers are counting on the public’s concerns with Alzheimer’s disease and the brain fog from long COVID-19 added to the old basic fear of aging. It’s no wonder that the public is interested in a cure. Prevagen is not approved medication by the Food and Drug Administration for any form of dementia. Let me say that again more tersely. This is a scam.

It’s disappointing that taking Prevagen isn’t the answer to our problems with aging and death. The senior ophthalmologists of the Academy, as well as many others, would love a simple solution to aging. Most of us find the issues of aging and death daunting and discouraging, if not depressing. Or not. Not everyone is as obsessed or bothered by these fears.

Psychologists tell us that many children start obsessing about dying about age 4 or 5. Kids may be clued in on this by the rude reality of the death of a pet, a story line on TV or by news accounts of a tragedy. Their parents will likely help them comprehend death and dying. Children tend to work through four levels of understanding:

1) When you die, your body doesn’t work anymore.
2) All living things die.
3) Once you die, you can’t come back.
4) No one can avoid death.

When my firstborn was four, she had processed through these FOUR levels and showed discomfort while asking us, her parents, “What will I do when you die?” My gimmick was to tell her not to worry because I probably wouldn’t die until about age 90 and that 90 years was a very long time. To make the point, I would ask

Turritopsis Dohrnii, also known as the immortal jellyfish, is a species of small, biologically immortal jellyfish found worldwide in temperate to tropic waters.
From the Editor’s Desk

her to count to 90 knowing full well that she’d be bored long before she got there. It worked. But now, 90 doesn’t seem like such a long count anymore.

I think that Woody Allen was onto something when he said, “I’m not afraid of death; I just don’t want to be there when it happens.” Studies show that elderly patients in nursing homes did not fear death itself but rather worried about the process of dying. Perhaps their lack of fear of death was also a product of the ascertainment bias of these studies that only questioned elderly persons who lived in nursing homes. Invariably, these surveys also found that life at the nursing home was boring as the elderly lacked family around them to give them meaning. Indeed, other studies have shown that many cultures that don’t institutionalize the old do much better than ours at supporting the elderly, filling their lives with a sense of meaning, and mitigating these types of fears.

Author and geography professor Jared Diamond gives a TED talk: “How Societies Can Grow Old Better”. In it, he demonstrates how the process of growing old and dying varies a great deal in different parts of the world. And attitudes towards death and dying vary dramatically by culture. Fundamentally, in tribal societies (ancient and current), the elderly live out their last years surrounded by their children and grandchildren. In some tribal societies that we would deem as primitive, the elderly are sometimes disposed of by neglect, encouraged to commit suicide or even killed.

In primitive nomadic societies, when you can’t keep up by walking long distances, you are literally left behind. As my walking range is limited, I have no doubt that I would have been left behind (in fact, I often am during family shopping trips). But in sedentary tribal societies, such as the New Guinea Highlands, the elderly are regarded as useful, at least by providing childcare, and valued for their knowledge and wisdom (in a world where books and Google aren’t available, old people rock). I might have done better there.

Additionally, there are several sophisticated societies that particularly value the old. Confucius taught that filial piety was paramount, and so East Asians are more apt to revere the elderly. But in Western Europe and even more in the U.S. things are very different. The elderly are considered the least valuable in the prioritization of resources, such as healthcare. One reason for this is our cultural heritage. The Protestant work ethic implies that after an older person stops working, that person’s value diminishes sharply. In the U.S., a demographic shift is coming towards fewer young and more elderly, and this will make things even worse. The elderly will, at best, be marginalized, and at worst, culturally discriminated against.

Some national differences, even within Western Europe, are interesting. In Germany, there are laws requiring that everyone who dies must receive a respectful burial or cremation. In Italy, the practice of Catholicism requires caskets, but such caskets are typically stacked in mausoleums as the ground space is limited. In Albania, although most funerals are secular and held at home, cremation is not practiced, and caskets are buried. In Ireland, wakes often go on for long periods as family, friends and neighbors share stories, sing and party. But even bigger differences between countries are seen in other parts of the world.

Most Asian cultures believe in the afterlife. Japanese rituals often combine both Buddhist and Shinto traditions and include washing the deceased individual’s body and the cleansing of the burial ground as part of the funeral. In China, the rituals focus on honoring elders. The deceased’s social standing makes a big difference and if not correctly privileged it will bring bad luck upon the family. In India, death rituals are strongly influenced by Hinduism and focus on helping the deceased achieve a good reincarnation. In West Papua, New Guinea, the Dani relatives of the deceased may amputate their own finger as a personal show of sacrifice and shared pain.

There are also some modern versions of death rituals as well. For example, there are now drive-through funerals found in both Japan and the U.S. And there are sky funerals, popular in several Buddhist cultures, that entail leaving the body to be consumed by vultures as some believe this helps to transition the soul for a favorable reincarnation.

In the U.S., we not only tend to marginalize the elderly, but even marginalize discussions about aging and death. It is an uncommon subject for situation comedies on TV. On the other hand, several movies have taken on this serious subject. There are, for example, three Clint Eastwood movies: “Grand Torino,” “Mule” and “Trouble with the Curve.” Also good were, “The Best Exotic Marigold Hotel” and “The Leisure Seeker.” Most of these films have common themes. There was a longstanding love; then there was a loss of and a betrayal by an aging body and/or mind. Finally, the protagonists are left with only gossamer memories of the love.

In the Fall edition of Scope, I have already reviewed an excellent book that grapples with death and aging. I highly recommend “Being Mortal: Medicine and What Matters in the End” by Atul Gawande. However, most popular books on aging purport to tell you how to extend your lifespan. These are rather trite as they give the same sort of advice that your mother already gave you (don’t smoke or drink, eat green things, exercise, and do things in moderation). I do research in Alzheimer’s disease and my standard answer to what is the best way to try and prevent Alzheimer’s is, “What’s good for the brain is what we know is good for the heart.” Which is true and also likely to be your mother’s advice. Little else is apt to make much of a
difference. There are, of course, lots of studies that associate mental stimulation with preserved mental function.

There are claims that people who do Sudoku or crossword puzzles or learn new languages develop symptoms of Alzheimer’s at a later age. I hate to be a “Debbie Downer,” but all of these studies are retrospective and confuse causation for association. The obvious ascertainment bias is that those who are more intelligent and educated are more likely to do these sorts of things and also less likely to be initially diagnosed with Alzheimer’s. Which is altogether different than saying you actually are delaying the pathology of Alzheimer’s. It is well known that very accomplished and intelligent people can fool those around them, and this even includes their neurologists, when the symptoms of dementia are mild. These very talented people seem to also have an accelerated course later in the disease process of Alzheimer’s. That’s because they were actually more advanced with Alzheimer’s when finally diagnosed. Being brilliant and with great vocabularies, they found work arounds to pass all the cognitive screening tests, but eventually they ran out of compensatory strategies in the late stages and then crashed quickly.

Every age and society have had examples of desperate strategies for those who are unwilling to accept aging and death. About 40 years ago, there was a great interest in cryonics, the cryopreservation of the recently dead. The rich would preserve their entire dead bodies into liquid nitrogen (at a cost of up to $200,000). The middle class could get a big discount by having only their heads put into liquid nitrogen vats ($50,000). If you choose to do either, be aware of two caveats: 1) even if the medical scientists of the future learn how to cure the disease that killed you, would they want to when there are plenty of people who are probably suffering from these diseases in their time and who haven’t undergone the postmortem changes that add insult to injury; 2) who pays for the storage and liquid nitrogen refreshment a century after you and your family aren’t around?

Already, several cryonics companies have gone bankrupt and failed to keep their bodies/heads preserved in cold. But newer strategies always come along and sometimes supported by rich and famous institutions. Have you heard of Google’s project to solve aging and death? $1.5 billion has already been committed to what Google calls a “singularity research project.” Singularity is Google’s promise that it will be a complete game changer.

Personally, I am inclined to try and acquire acceptance of death through experience and conversations with wise old people and to read philosophy. Cicero and Michel Montaigne are particularly helpful here. Montaigne claims that “to study philosophy is to learn to die.” He goes further and says that the understanding of death is a prerequisite for the understanding of life and the art of living. In his three-volume collection of essays (1580), the French thinker gives us several excellent compositions on aging and death.

Or we could go more simply with Ashley Montagu who says much in his pithy phrase, “The idea is to die young, as late as possible.” I’m down with that.

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**Senior Ophthalmologist Activities at AAO 2022 in Chicago**

By Samuel Masket MD, Senior Ophthalmologist (SO) Committee Chair

The Academy’s 2022 annual meeting has recently concluded, and it was revelatory and joyous for those colleagues who were able to attend. It had the sense of a camp or class reunion, with people shaking hands, hugging and truly enjoying the opportunity to be face-to-face rather than screen-to-screen.

The Senior Ophthalmologist Committee was involved in many activities at AAO 2022 in Chicago.
ties with pleasantly good attendance throughout. The SO Lounge gave an opportunity for SOs to engage with colleagues, have a light snack and listen to a presentation on the Ophthalmic News and Education (ONE®) Network, while enjoying lunch that was provided for them.

As SO Committee chair, I had the opportunity to collaborate and participate in the Academy’s Committee on Aging symposium that was held on Saturday morning under the leadership of Simon Law, MD, who is chair of that committee. The symposium, “Social Determinants of Health in Geriatric Ophthalmology (SYM01),” explored the socio-economic and health care delivery challenges in providing adequate care for seniors across various cultures. It provided a guide toward a path forward in dealing with inequities.

A FORUM TO DISCUSS AGING AND THE EYES

On Saturday afternoon, fellow SO Committee member Stephen Obstbaum, MD, and I co-moderated the Senior Ophthalmologist symposium, “The Impact of Age on Management of Common Ocular Conditions (SYM17),” that explored the impact of age on diagnosis and management of five common ocular disorders. Attendees heard outstanding presentations with content valuable to the entire Academy membership, young or senior ophthalmologists. Speakers and topics included:

-Leon Herndon Jr., MD, Impact of Age on POAG
-Andrew Lee, MD, Sudden Monocular Loss of Vision
-Rosa Braga Mele, MD, Impact of Age on Pseudoxfoliation
-David Boyer, MD, Age and Macular Degeneration and Diabetic Retinopathy
-Nicole Fram, MD, Corneal Decompensation and Malpositioned IOLs

On Sunday afternoon, representing the SO portion of AAO 2022, I had the privilege and honor of presenting the Academy’s Artemis Award to Frank Brodie, MD, of the University of California San Francisco. The Artemis Award is given annually to an individual who has gone far beyond the routine responsibilities of a Young Ophthalmologist to reduce pain and suffering. Dr. Brodie developed a system with 3-D printing to create custom spectacles for children with craniofacial abnormalities. Before that, special needs children could not be fitted for eyeglasses. With the help of others, he created the Loving Eyes Foundation to sustain the project. Congratulations, Dr. Brodie!

PHYSICIAN WELLNESS

Each year the SO Committee is responsible for a Learning Lounge session. On Monday, Todd Baker, CEO of the Ohio State Medical Association, and Camille Palma, MD, a vitreoretinal surgeon at Cook County Hospital and certified yoga instructor, joined me in discussing Burnout and Wellness issues among ophthalmologists.

Mr. Baker emphasized the mental health aspects of burnout and Dr. Palma explained the importance of physical well-being and ergonomics in allowing physicians to be “fit-for-duty.” The interactive hour-long session was well attended and included a colleague from New Zealand. (See Academy resources around physician wellness).

The SO portion of AAO 2022 concluded on Monday with our special program. We were treated to Chicago deep-dish pizza during a beautiful nature photography presentation by colleague, Jeff Maltzman MD, former chair of the Academy’s OPHTHPAC® Committee. Not only were the photos beyond eye-catching, but Dr. Maltzman explained the optics and photographic principles of his spectacular work.

Architect Juliane Wolf of Studio Gang, one of the most influential architectural firms in the country, gave a presentation on contemporary architecture in Chicago. She explained the integration of their work with the environment and the human condition. Its designs are both beautiful and inspirational, taking into account the issues of everyday urban life and how to elevate the experience of the inhabitants. Finally, Janice Law, MD, the Academy’s YO committee chair, made a surprise presentation of the EnergEYES Award to Keith Carter, MD, of the University of Iowa. The EnergEYES Award was created in 2009 to recognize and honor a senior ophthalmologist who demonstrates exemplary leadership skills by energizing others to improve ophthalmology. For many years Dr. Carter has been involved in resident education and helped launch the Academy’s Minority Ophthalmology Mentoring program where he now serves as chair of the program’s executive committee.

On behalf of the SO Committee, we hope you took advantage of our SO activities and had a great meeting. The AAO 2022 Virtual Meeting platform is open through Jan. 31, 2023 so you still have time to take advantage of great programming! We look forward to seeing you next year in San Francisco for AAO 2023.

Author’s note: The Academy is indebted to John Stechschulte, MD, SO Committee member, for procuring Baker and Wolf’s participation. We are very grateful for his assistance with this year’s programming.
Green Acres With an Ozark View: A Retirement Reset

By Laurie Gray Barber, MD

I once considered retirement a remote choice, taken once you’re older with much notice and glorious retirement parties.

But in March 2020, the pandemic slammed the world. My husband, Jeff was diagnosed with rare Churg-Strauss (eosinophilic granulomatosis with polyangiitis or EGPA) and an immense, and tenacious thymoma encased my son-in-law’s chest. We were presented with three life-changing strikes in two months, and we were reeling.

Due to initially intractable asthma amidst early COVID-19 waves, my husband’s physicians recommended avoiding his ENT practice. Imagine patients removing their masks and saying “aaaah” 10 inches from your face amid a lethal virus, while an autoimmune disease and the required immunomodulators wreaked havoc. Although I quickly returned to clinical ophthalmology, I daily feared conveying death to my susceptible loved ones.

COVID-19 stretched on for weeks, then months. Essentially living apart from my husband and family depleted my reserves. We decided if our goal was living our bucket lists together while able, we’d best retire from our beloved medical professions. A few years prior, we had purchased a beautiful old farmstead in northwest Arkansas as an investment, three hours from our Little Rock home. Realizing it was a good time to downsize, we sold our Little Rock house in under 24 hours and committed to a quick reset and relocation. The ditty from “Green Acres” became my earworm!

Before the pandemic, I could not imagine casting off the different hats of an ophthalmologist and physician, especially so quickly. My decades as an academician, advancement to professor of ophthalmology, scores of clinical research projects, mentoring, and intense roles in ophthalmology advocacy and leadership were high priorities up until March 2020.

I now have wide brimmed sun hats and John Deere blaze orange caps to don. Growing up in a suburb of Des Moines, Iowa, I was not a farmer wannabe. My husband, Texan Jeff, on the other hand, has always been a man of the land. He thrives on bush hogging, hole digging and mowing with the old John Deere tractor that his dad utilized for 65 years.

Together, we learned no-till gardening. We set up growing lamps, planted seeds, properly buried the seedlings, and harvested large quantities of vegetables. Jeff planted hundreds of apple, pear, pawpaw, persimmon, fig and even zombie fruit trees. We have harvested gallons of grapes (three varieties) and plucked massive stands of wild (with thorns!) blackberries.

I have brewed huge pots of soup from the tomatoes, sweet peppers, onions, greens and potatoes we put up. Our good gifts of homemade grape, pear, and blackberry jellies and jams are lovingly shared with friends, family, and homeless shelters. Fruit cobblers and pies are requested now in lieu of birthday cakes, their wonderful fragrance wafting through the “compound” of farmhouse, shop, garden, cottage, corral, and barn.

I had visualized our retirement as being filled with active trips away, hours reading and big gatherings of family and friends. Instead, mainly due to the pandemic, we took the curved, quiet path of rural living. I now keep up my stitching skills while sewing clothes rather than skin.

Slowly, we have climbed out of COVID-19 and illness bunkers. Our family and friends enjoy gatherings again. I volunteer to give COVID-19 vaccinations to eager recipients throughout northwest Arkansas. I relish a particular memory of a thrilled senior woman. Dressed in pink, she gifted the fire station vaccination site with her own enthusiastic, choreographed dance to overhead music as she awaited the post-vaccine observation time. It was a joy to have grateful Arkansans baring their arms, tearfully tell-
Determined to enjoy retirement, we traveled the Midwest and South in a hastily purchased and outfitted tow-behind trailer. My husband (begrudgingly) gave “glamping” a chance, and it was a great way to travel safely during the worst of the pandemic. We have since reverted to old modes of travel. I reckoned he bought the RV out of love for me and my insistence we could not abandon adventures. I sold the camper out of love for him, and the realization he didn’t enjoy the preparation and take-down necessary for each trip. To celebrate, we spontaneously signed up for a Greek isles cruise, and savored the sparsely populated, fully vaccinated, and masked ship and gorgeous Greek cities.

Enriching our lives further, our two sons live nearby and have blessed us with a new granddaughter each. Our daughter and son-in-love have withstood the hermit life and scary Cs of cancer and COVID-19 and may move from Iowa to Arkansas if Mayo Clinic oncologists, radiation oncologists and chest surgeons deem his metastatic thymoma stable.

As another way to remain active, we self-contracted building a 700-square-foot guest house. To our surprise, it has stayed booked on Airbnb when not blocked out for family and friends. Meeting folks from across the U.S., even during the pandemic, has been a good remedy for fewer social contacts.

At this point in our retirement, I would tell my younger 2020 self that stepping back from a beloved profession will be an emotional experience, but it will allow a rebalance of priorities and a different kind of fulfillment. Thanks to excellent health care for my spouse, we enjoy an active life of hiking, biking and kayaking, albeit at a slower pace. We have also found mental balm in tending plants and trees, encouraging wildflowers and native grasses for the birds and bees, and in seeing our family as frequently as our busy lives allow.

I sing, “Green Acres is the place for me. Farm livin’ is the life for me” to make my two grand babies laugh. Simple pleasures such as an infant giggling strengthen us, and we live for the glorious sunsets from our home.

Our life reset has agreed with us now that we have readjusted expectations. I am grateful for the chance to continue becoming, even if I move further away from the woman I had been.
On Pandemics: Looking back from COVID-19

By Steven Newman, MD

PART 4: THE LAST PANDEMIC: COVID-19

Corona viruses are a family of viruses that cause respiratory illness but also symptoms as mild as the common cold. This family of viruses includes Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome and most recently, COVID-19, which, when severe, also causes respiratory distress.

Coronavirus (COVID-19) was probably first detected in the city of Wuhan in China in late December 2019, possibly in a seafood market. This caused a cluster of cases of acute respiratory disease, that spread rapidly with major outbreaks in Brazil, Russia, India, Mexico, Peru, South Africa, Western Europe, and the United States. This was first declared a pandemic in March of 2020 and represented the most recent pandemic since the swine flu pandemic of 2009.

The reservoir of this particular virus is in horseshoe bats. COVID-19 may present with ocular symptoms including conjunctivitis, eyelid erythema and foreign body sensation. It also may produce anterior uveitis, optic neuritis, vasculitis or retinitis. The chance of spread from the tears is low and this virus is usually spread by aerosol inhalation. The details of ophthalmic involvement were noted by Li Wenliang, MD, a Chinese ophthalmologist who saw several patients, reported his concerns, for which he was censured, and then died from the disease. He was one of COVID-19’s first victims.

According to the World Health Organization, as of October 2022, there were at least 620 million people worldwide who had been infected with COVID-19, and approximately 6.5 million died. However, these numbers are likely under-reported since testing has been a problem. Most patients die from hypoxia due to pulmonary involve-

ment. Survival of the elderly, once intubated, is extremely low.

Even in the modern era, the most important strategy in mitigating a pandemic is containment (isolation, quarantine, masks if aerosol spread as was recommended by the Red Cross in 1918). Going back centuries, plagues were thought to reflect the religious idea that it was the gods who made us sick. Plagues are a way that gods seek to get our attention about finitude and mortality.

Science only became involved in the history of medicine during the middle of the 19th century. Thus, we learned the importance of water-borne dissemination from the Broad Street Pump during a cholera epidemic. It was really Louis Pasteur, however, who introduced the germ theory, suggesting that disease was caused by microorganisms. The initial presumption was that all diseases were due to bacteria, but it did not take long until it was recognized that there were other mechanisms.

One, as in the case of diphtheria, was that a toxin alone could do damage (noted by Emile Roux and Alexandre Yersin). Diphtheria toxin without diphtheria could produce the significant pathologic features. Antitoxins (initially by G.J. Hermann and Charles Reynolds) could save lives. Additional work by Emil von Behring showed that a mixture of diphtheria toxin and antitoxin could produce lasting protection from diphtheria (the first pharmaceutical cure). A diphtheria outbreak in Nome, Alaska led to the 800-plus mile importation of antitoxin by dog sled from Neanna to Nome. William Park, chief of the laboratory division of the New York Health Department and his deputy Ann Williams were able to produce an antitoxin that was 500 times as potent as the Europeans in 1894.

Population medicine also largely started in France with Pasteur (he created the first vaccine against rabies) and then was refined with experimental work in Germany. It is not surprising therefore that the advent of the medical school at Johns Hopkins significantly accelerated the acquisition of knowledge. William Welch (who had spent time in New York but had studied in Germany) had adopted the German approach to medicine. It was fortuitous that he was recruited to Johns Hopkins, a new medical school in Baltimore. Other developments were brought from Germany including the development of various dyes to stain microscopic specimens particularly in the study of Anthrax.

LESSONS FROM PREVIOUS PANDEMICS

The 1918-20 influenza plague certainly provides important lessons for us today as we face the COVID-19 pandemic. Some of those lessons have been accepted but many have been ignored. In the absence of a specific treatment or vaccine we must fall back on the public health response which was lacking in 1918. If there is any chance to limit the geographical spread of the disease, officials must have the legal power to take quarantine measures. There was a waste of resources in 1918 in New York City as institutions worked in cross purpose to each other. The same applies today.
The World Health Organization has published documents for pandemic preparedness in 1999 (revised in 2005 and again in 2009). The Centers for Disease Control and Prevention also adopted a pandemic severity assistance framework in 2014 based particularly on fatalities although realizing that fatalities alone may not account for the full effect of a pandemic. They went on to analyze management being divided into containment and mitigation. Mitigation involves nonpharmaceutical means to limit spread and provides more time for developing vaccine and other treatments. Particularly for viruses spread as an aerosol, this includes antibacterial hand liquids, face masks, self-quarantine and community measures aimed at social distancing. In these days when development of vaccine seems to be accelerated, these means of mitigation are critical to reduce spread early on. This has been adopted in several locations including China.

Pandemics have been related to bacterial problems including bubonic plague, mycobacterial problems including tuberculosis (which may affect one-fourth of the world’s population), parasites and viruses. DNA viruses include smallpox; RNA viruses produce yellow fever, Zika, measles, influenza, polio, AIDS, SARS, Ebola and the current epidemic of COVID-19. Parasitic pandemics include malaria and toxoplasmosis. We now have new tools for investigating these pandemics, even in retrospect.

Johann Wolfgang von Goethe said, “We look for what we know, and we find what we look for.” Even without a specific vaccine there are measures which may mitigate disease by flattening the curve some of which were effective 100 years ago. In view of the propensity for RNA viruses to mutate, new vaccines may need to be given yearly. Unfortunately, it isn’t just the sick and dying that affect us; there are social and economic aspects that threaten us in this and future pandemics. We can be sure that COVID-19 will not be the last pandemic.

**What We’re Reading This Fall 2022**

Senior ophthalmologists share the best of what they’re reading this fall. Share what you’re reading and send your review to our book review editor, Robert L. Stamper, MD, at scope@aoa.org.

The Beauty of Dusk: On Vision Lost and Found

By Frank Bruni
Reviewed by Stephen A. Obstbaum, MD

Frank Bruni is a respected journalist and author. At 52 and in otherwise good health, he awakes one morning with vision loss in his right eye that is ultimately diagnosed as nonarteritic ischemic optic neuropathy. He initially takes us through his fears, concerns, and obsessions about his condition and how it might potentially affect his professional and personal life. He enthusiastically enters two clinical trials, neither of which provide positive outcomes. In time he accepts the physical consequences of his condition, and his trepidation lessens as he navigates his new reality. Bruni seizes the opportunity to examine his life, behavior and relationships. He recognizes he is not indestructible but that his medical condition has provided greater awareness and appreciation of his life experience.

As the title suggests, he acknowledges the anatomical basis for the loss of vision of his right eye and in dealing with the challenges it imposes, Delves into a process of self-examination and the recognition of a spiritual, philosophical vision formerly hidden. There is heightened appreciation of the resilience of the human spirit and the triumph of accomplishments in the face of adversity. Bruni uses his own voice and intertwines the voices of others, who have overcome visual or physical deficiencies to lead rich, reinvigorated, and meaningful lives.

Bruni’s style is clear and fresh. He extols the appreciation of life. It was a joy for me to read this book.
**BOOK REVIEWS**

**Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants**  
By Robin Wall Kimmerer  
Reviewed by George L. Spaeth, MD

“Braiding Sweetgrass” by Robin Wall Kimmerer, is a powerful, beautiful book. Kimmerer is a botanist, scientist, professor, mother, distinguished professor, ecologist, visionary, poet and Native American. It is rare that such characteristics are present in one person. She is also an astute, kindly observer.

The subjects of the different chapters are as different as the special significance of wild strawberries, how planting beans, corn and squash together improves the harvest from all three, a field trip initiating young students into the wonders of nature and the importance of changing to a gift economy. The styles of the different chapters also vary, from professorial to poetic.

Every page brings insights.

A person who wants to see the world more accurately, and who wants to play a role in creating a world based on good sense — biologically, ecologically, emotionally, pragmatically, and morally — will be enlightened and heartened.

A thoughtful neighbor whose values and behavior are inspiring to me gave me a hard copy; the first thing that struck me was the fine bookmaking craft. As I started reading it, the words evoked were “respectful skepticism.” But I soon realized that I was being gently introduced, never coerced, into a new, better world view, abstractly, rationally, emotionally and tangibly. The book now remains in my living room, where I reread it frequently. I have gotten notes of deep gratitude from those to whom I have given the book.

Its initial reception in the literary world was enthusiastic — a New York Times bestseller. More recently, talk about it seems to have largely disappeared. This is not surprising. It is more like a Mary Oliver poem than Karl Marx’s call for a “forcible overthrow of all existing social conditions” or Thomas Jefferson’s Declaration of Independence. However, it is a paean to a behavior that has worked for some but is uncomfortable to most cultures since neolithic times.

Author Patrick Radden Keene reveals the history of the Sackler family empire and its influence on marketing of pharmaceuticals, its development and sale of OxyContin by its privately held company Purdue Pharma and the family’s tireless efforts to hide the source of their wealth. This narrative report describes how three brothers, all physicians, emerged from the Depression, researched drug treatments in psychiatric hospitals, espoused the use of minor tranquilizers, joined and eventually (one brother, Arthur) owned a small advertising firm that aggressively marketed Valium.

The Sacklers’ first large fortune came from pharmaceutical advertising. That fortune was used to buy numerous small medical companies for which the second and third brothers, Mortimer, and Raymond, took over leadership. They owned Napp Laboratories, which produced a morphine pill and then developed a special coating which slowed diffusion of the drug into the bloodstream.
numerous small medical companies for which the second and third brothers, Mortimer, and Raymond, took over leadership. They owned Napp Laboratories, which produced a morphine pill and then developed a special coating which slowed diffusion of the drug into the bloodstream. Their company, Purdue Frederick’s, opioid research brought about oxycodone, which the Sacklers’ then manufactured and sold without even alerting the Food and Drug Administration. This is how they made their second huge fortune.

The book is an agonizing history of the luxurious lives of three generations of the Sackler family, who misled doctors, improperly influenced the FDA, denied any addictiveness of their stronger opioid pill (OxyContin) based solely on its slow-release mechanism, utilized many of America’s most powerful lawyers for influence or protection, gamed the tax code and then sapped tens of billions of dollars from Purdue before the company — but not the family — was granted bankruptcy status, just before OxyContin’s exclusive patents expired.

The family hid their source of income while they gave very generously to many universities, museums and research institutes who named buildings after the Sacklers’. Starting in 2017, many of these famous entities began refusing gifts from the family and removed the Sackler name from their buildings.

After reading this book you will be more accepting of strict FDA approval processes including post-approval requirements. We should be more willing to require greater transparency for privately held corporations so owners and officers of a corporation can be found both financially and criminally liable for their actions. It is unlikely the Sacklers’ will ever be punished enough, but they must live with the shame they brought to the Sackler name. As their father Isaac said, “If you lose a fortune, you can always earn another. But if you lose your good name, you can never get it back.”

The Booths were a family of noted actors, especially Junius, the father, and sons, Edwin, and John. However, Junius, an alcoholic, was also intermittently deranged, even exhuming the corpse of a daughter who died of cholera with the goal of removing her “impure blood” to revive her.

Edwin and John Booth were idolized for their handsome appearances and thespian skills and the

In the Houses of Their Dead: The Lincolns, The Booths, and The Spirits
By Terry Alford
Review by J. Kemper Campbell, MD

Readers might assume that the lives of Abraham Lincoln and John Wilkes Booth have been fully explored over the past century and a half. Authors from Carl Sandburg to Bill O’Reilly have described the pair, and actors from Henry Fonda to Daniel Day Lewis have attempted to capture Lincoln’s character.

Yet Terry Alford, a retired Virginia professor who has written a previous book on Booth, has managed to uncover fresh linkages between the two intertwined families which inexorably led to that fateful night in Ford’s Theatre.

In his new book, “In the Houses of Their Dead.” Alford recounts how the Lincolns and the Booths both dabbled in spiritualism, a belief that the spirits of the dead could communicate with the living through a medium and that supernatural sources could predict future fates.

This reviewer has had an abiding interest in Lincoln’s assassination since viewing the grisly relics collected and displayed at the Armed Forces Institute of Pathology in Washington, D.C.

Spiritualism was a common belief in the mid-19th century and persisted through the World War I and 1918 influenza pandemic when nearly every family was touched by the death of a loved one.

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only childhood hint of future catastrophe was John’s ailurophobia, causing him to torture and kill cats.

Lincoln, on the other hand, suffered from bouts of melancholia and premonitions of his own early death. His wife, Mary, was driven to the madhouse by the premature loss of three sons, Eddie, Willie and Tad, and her husband. She frequently invited mediums to the White House to commune with their ghosts. Remarkably, both Lincoln and Booth shared the same charlatan medium, Charles Colchester, who tried to warn Lincoln of his imminent danger.
To summarize, this fascinating book contains a myriad of previously unknown connections between Lincoln and Booth which occurred both before and after the nefarious deed.

As intended, this is a timely piece. For we are judged not only by our words and our deeds, but by our companions and by those we hold out as role models. It’s a shame that most of our current political leaders have little knowledge of Cato, Cicero, Epictetus or even Aristotle. Thus, they are less likely to admire virtue and more likely to see the state as an opportunity to promote their own self interests.

George Washington was the least well-educated of the four. He was not particularly well read until later in his life. He was jealous of the education of most of his contemporaries, but he admired them for it. But Washington knew himself and kept himself from most vanities. He valued sober discipline and virtue the most. The man he read who epitomized these values was Cato (the Younger). Cato was the man that initially defended the Roman Republic from the dictatorial Julius Caesar. Caesar eventually won and Cato committed suicide. Washington had no admiration for naked ambition like Caesar’s.

John Adams was educated at Harvard College and was a steadfast classicist. Though much better read than Washington, Adams also sought to manifest virtue though he chose, as his role model, Cicero. Cicero also died violently in defense of the Republic. Though, it should be said, Adams also felt a kinship with the man who closely matched Adams in personality. Both felt themselves to be outsiders who were envied and insulted more than loved. Jefferson was the philosopher who soared with ideas, no matter how impractical. He chose as his inspiration Epictetus, whom, you will recall, gave a strong argument for happiness as the aim of life. Now you know where the phrase in the Declaration of Independence for the fundamental human right for “the pursuit of happiness,” comes from.

Finally, there is Madison, the most practical scholar of the four. He studied the weaknesses of Greek and Roman governments and had a healthy skepticism for government power. For dealing with this, he often turned to Aristotle who was a psychologist as well as a philosopher and argued that ham-stringing the state was a good thing. This was much more practical than Jefferson’s lofty appeals to Locke’s defense of natural law. It is interesting that though several were rich, none of these four men were interested in getting richer.

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Haben: The Deafblind Woman Who Conquered Harvard Law School
By Haben Girma
Reviewed by Robert L. Stamper, MD

As an ophthalmologist, I have all too often encountered people with loss of some or all their vision, due both to congenital and acquired causes. I often get to know them well due to frequent visits but reading this book made me very aware how little I really knew about their day-to-day life and struggles. In this relatively short, easily readable work, Haben Girma recounts in a refreshingly earnest and often humorous way her early life with stories and examples of her battles from the mundane to the exotic. Facing a set of triple hurdles that could have left her homebound and totally dependent, Girma found ways both courageous and innovative to achieve lofty goals and find fulfillment.

An Eritrean immigrant, she had visual problems from early childhood. She had some visual function which gradually faded as she entered her teen years. In addition, she also began to lose her hearing. She had an older brother with a similar condition suggesting Usher’s syndrome or something similar (although her exact diagnosis is never mentioned). She likens her many challenges to those experienced by her family fleeing a civil war to a foreign country.

With support of her sometimes-reluctant parents and the California disabilities program, she was able to attend a mainstream high-school. She chose a small liberal arts college in Oregon where the challenges facing a blind-deaf woman came to the fore. Using native intelligence and dogged persistence, she was able to overcome many hurdles that would have stymied someone less determined. She recounts daunting tasks and sometimes downright comical episodes and their innovative solutions. She even helped design electronics that not only allowed her to have her lectures translated into Braille but had applicability to the broader group of deafblind. She describes her experiences in college and her successful completion of Harvard Law School as its first deafblind graduate. She became a well-known disability lawyer and more recently a disability advocate.

She feels that many people with handicaps small and large are underestimated.

In addition to her successes in the legal profession, she has traveled the world inspiring others with handicaps to succeed. She is a brave and adventurous individual who has, among many other feats, helped construct a school in Mali, climbed a glacier and danced salsa.

Although her personal accomplishments are noteworthy, even admirable, she would not have us awestruck. She feels that many people with handicaps small and large are underestimated. Given the right encouragement and environmental support, many handicapped people can accomplish much more than society expects of them.

While learning of some her hair-raising and funny experiences, I also came to appreciate what grit, determination, and a refusal to be boxed in by physical impediments can bring to an individual; not only that, but, if shared, can pave the way for a better world for many others. As successful as she has become as a person, her even greater successes are what she has given back to the broader society. In addition to a better appreciation of the barriers that a largely visual and aural society makes for those deficient in one or both of those senses, reading this book provides insights into how we can be truly helpful to those with handicaps without getting in the way of their reaching their full potential and enjoying a satisfying life.

Bad City: Peril and Power in the City of Angels
By Paul Pringle
Reviewed by Samuel Masket MD

As a disclaimer from the outset, ophthalmologists should be aware that this book concerns our colleagues. Carmen Puliafito, is a well-known ophthalmologist and former dean of the University of Southern California Keck School of Medicine; he is portrayed in a very salacious light. He is at the center of a scandal that occupies a large portion of the book. The book alleges severe depravity on his part and the reader may not wish to read further.

The central theme of the book is the purported common interest bond for respect and power in Los Angeles between the LA Times and USC. The author accuses the editorial hierarchy of the LA Times of a conspiracy to protect the well-entrenched position of control that USC is seem-
Pringle became enraged that his senior editors at the LA Times do not agree and push back strongly against the concept of a conflict of interest between the two institutions, but in the end, readers must decide on their own.

The book opens with the narrative from the manager of a small luxury hotel in Pasadena, home of the Rose Bowl and a staid bedroom community for many USC faculty. A very young woman has overdosed on illicit drugs while in the company of Dr. Puliafito, to whom the room is registered, and there are drugs and drug paraphernalia strewn about. Methamphetamine is found in the room's safe. The young woman is unconscious but breathing; paramedics are called, and both the police and fire departments respond.

This tidbit was passed as a tip to the author of the book, Paul Pringle, an investigative reporter for the LA Times. Pringle tries to follow the leads only to discover sizeable roadblocks from the Pasadena Police Department and other powerful institutions; interestingly enough, an official police report of the event was not filed until three months later, and only after Pringle's incessant search for evidence.

The young woman in question came from an upstanding family but became addicted to drugs and turned to prostitution in order to support her drug habit. Dr. Puliafito became sexually involved with and heavily fixated on her, maintained apartments for her in his name and kept her readily supplied with drugs of felonious dealers who became his regular acquaintances. She was placed in several high-end drug rehab centers by her parents, but Dr. Puliafito would find her and surreptitiously bring her drugs even while she was under the tight control of the facilities.

Pringle became enraged that there was no public record of the initial event. Further, upon learning that Dr. Puliafito had stepped down as dean to follow “other pursuits,” he attempted to reach out to all involved parties, including USC President, Max Nikias, Dr. Puliafito directly, the city of Pasadena and the Pasadena Police Department. He put together an initial draft for a blockbuster news article but was seemingly stonewalled by the senior editors.

Realizing the importance of exposing a treating physician and medical school dean, the author encountered a conspiracy to protect USC as well as Dr. Puliafito. Ultimately, after more than a year, with the help of other writers, the story broke. Dr. Puliafito did not face criminal charges but lost his medical license. At present, the young woman in question is apparently doing well.

The story does not end there for USC and ophthalmology. Rohit Varma, another well-known ophthalmologist, was appointed as interim dean but quickly stepped down after it was revealed that he also had prior sexual harassment charges. Far worse for USC, however, was the saga of George Tyndall, a campus gynecologist, who for 30 years was a sexual predator of young (primarily Asian) women students. He performed examinations behind locked doors (despite his instructions not to do so); in total, he allegedly verbally and physically abused a reported 700 female students.

It took a very courageous nurse to finally sound the alarm, at great cost to her personal and professional life. The school allowed this to transpire despite copious evidence. Ultimately, USC paid out approximately $1 billion to settle the matter, but only after providing Tyndall with a healthy buyout and retirement. Pringle was part of an LA Times investigative team that received the Pulitzer Prize for bringing this story to light.

As if this wasn't enough, USC was also involved in the “Varsity Blues” bribery scandal that allowed high paying parents to have their children admitted to high tier schools as athletes, though they had no skill in those sports.

In time, the senior editors in question at the LA Times who allegedly suppressed Pringle's work on the Dr. Puliafito story and USC President Nikias all lost their jobs. However, the book only offers Pringle's perspective. There may be those who harbor concerns that Pringle's initial work was not fully substantiated, and prudence required further investigation, evidence and editing. The reader will find the story compelling and truly astonishing.
It was great to see our colleagues at AAO 2022 in Chicago. I hope you all had safe travels to and from the annual meeting. It was the best of times in my home state of Illinois and in a city I dearly love, and it is a pleasure to share news of the Foundation with you.

A SUCCESSFUL ORBITAL GALA 2022!

The 19th Annual Orbital Gala was held at Chicago’s iconic Adler Planetarium. Our Orbital Gala chair, Christie L. Morse, MD, and her dedicated committee of volunteers worked tirelessly to make this year’s Orbital Gala Auction a huge success.

Those who joined us in person bid on exciting items donated by our Gala Committee members, from the AAO 2023 San Francisco Meeting Package to the Hawaiian getaway, Kentucky bourbons, and California wines.

We were delighted to celebrate our dear friend Susan H. Day, MD, 2022 Gala Honoree, for a lifetime of accomplishments as well as Frank Brodie, MD, the Artemis Award recipient, for his work in advocating and enhancing care for pediatric patients with craniofacial abnormalities. It was a thrilling night!

Hope to see you all in San Francisco for the 20th Anniversary Orbital Gala celebration in November 2023.

As we say goodbye to 2022, we ask you to consider a year-end gift. Your generosity of a tax-deductible donation by Dec. 31 will ensure that the programs you count on as an ophthalmologist are constantly evolving and innovating to create educational experiences that impact you and your patients. Protecting Sight and Empowering Lives is not just a brand statement, but one we live out every day thanks to your investment in your Academy. Continue to help us build a better future for the patients we serve. Remember, you can now choose to make a monthly or quarterly recurring gift. Donate today.

YOUR LEGACY

It is so important to give back to your profession. With a planned gift, you can secure your legacy and help provide for the future.

Thank you again for your continued support of the Academy Foundation. I wish you all a delightful Thanksgiving holiday. I’d love to hear from you. Feel free to contact me anytime at gskuta@aao.org.