



# SCOPE

## Our Friend - M. Bruce Shields, MD

By W. Banks Anderson Jr. MD and Alfredo A. Sadun, MD, PhD

**A**fter four years as the editor of *Scope*, M. Bruce Shields, MD, is stepping down. The new editor, Alfredo Sadun, MD, PhD, has invited me to contribute a few words about Bruce.

As is true for most Academy member positions, Bruce's editorship has been an uncompensated labor of love. At *Scope*, I collaborated with Bruce for a time as an associate editor. This was but the last of many previous productive and pleasant associations.

Bruce came to Duke University as a resident in ophthalmology in 1970. Very few can say that they taught Bruce anything about glaucoma that he did not already know. But as a faculty member teaching this new resident, that was my privilege. After a fellowship in glaucoma at the Massachusetts Eye and Ear Infirmary, spending time with such luminaries as Paul Chandler, MD and Morton Grant, MD, he returned to Duke in 1974 to run their glaucoma service. Soon he was teaching me.

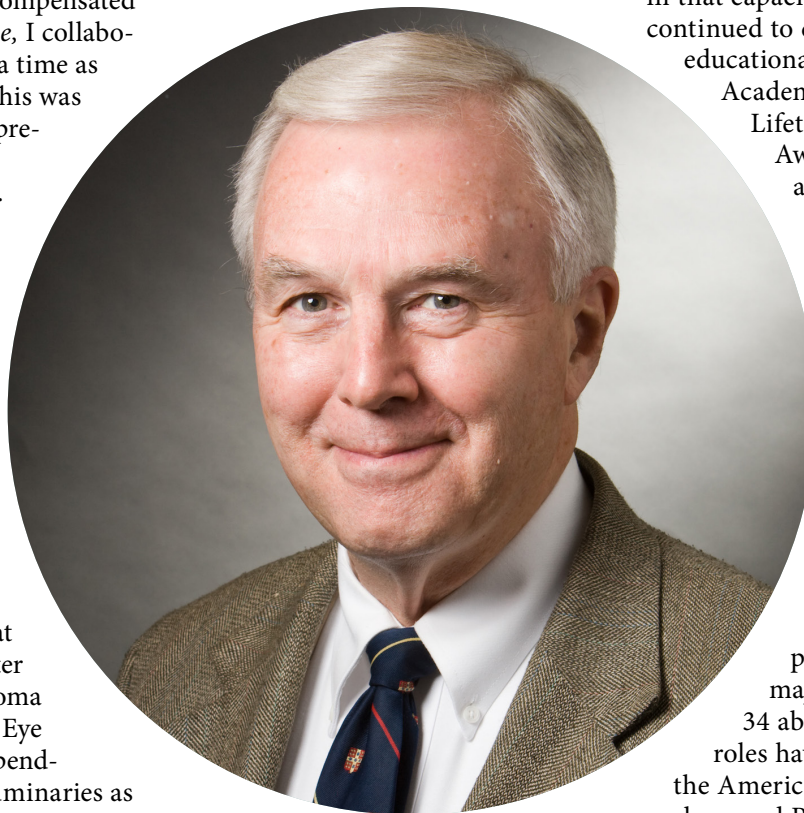
Bruce wrote his classic *Textbook of Glaucoma* on a writing retreat

after being urged by our chief, Robert Machemer, MD. It was a succès fou (extraordinary success) and is now in its seventh edition with translations into five languages. This is just one of several books and over 100 papers that Bruce authored. For many years, scanning

The trio of Bruce in glaucoma and Drs. Carol and Jerry Shields in tumors was so prolific that the Shields name seemed to appear monthly. Differentiating which Shields was writing didn't really matter because all of their papers were instructive contributions.

Bruce left Duke in 1996 to become a faculty member and chairman of the Yale Department of Ophthalmology and served in that capacity until 2011. He continued to contribute to the educational programs of the Academy receiving the Lifetime Achievement Award in 2008. He was a guest of honor in 2014. However, his work as an educator extends far beyond his work with the Academy and Yale.

Bruce has given 46 named lectures and served as a visiting professor for more than 50 university programs. He has presented at over 150 major U.S. meetings and 34 abroad. His leadership roles have included chair of the American Board of Ophthalmology and President of the American Glaucoma Society, among others. While at Duke he received the Davison Award for teaching excellence and earned a similar honor from Yale. In fact, the award at Yale now bears his name.



M. Bruce Shields, MD

the journals for Bruce's latest would almost always turn up another gem of a Bruce Shields' paper.

## M. Bruce Shields, MD

As these awards indicate, residents appreciated the time he took to teach and his gentleness in handling their missteps. Bruce was a masterful teacher who used the Socratic method to inspire as well as inform his residents. At Duke, he earned the sobriquet of “Mr. Rogers,” reflecting his calm demeanor. Some readers may remember this title character of children’s television known for his gentle wisdom. Many people still see today, though they know not that their

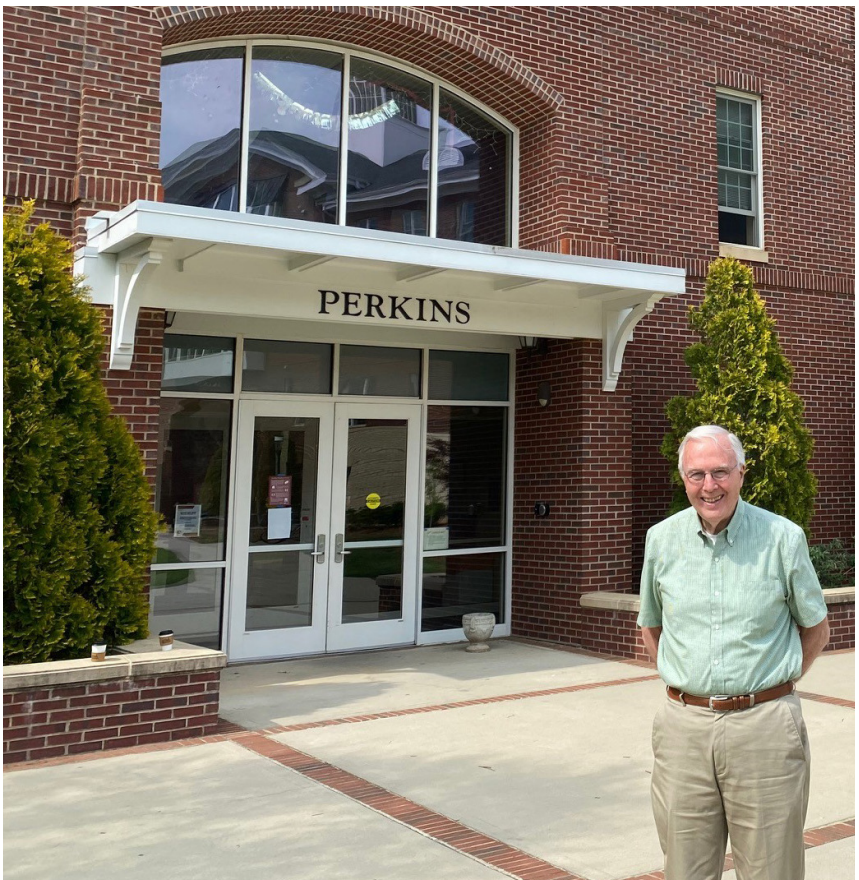
---

*For many years, scanning the journals for Bruce’s latest would almost always turn up another gem of a Bruce Shields’ paper.*

---

vision was saved because of his students who were made better by the teachings of Bruce Shields.

Upon retiring from Yale and returning to North Carolina, Bruce again volunteered his services to residents at Duke. Before COVID-19, he would drive weekly from his new home in Burlington, N.C., to Durham, N.C., to teach and to participate in grand rounds. Bruce has published stories from his ophthalmology practice in a volume titled *Gifts of Sight*. It is an uplifting read. He brought to *Scope* his expertise in editing and writing. He also brought gentle care and concern for Academy



Bruce pictured at Elon University and this beautiful dormitory named in honor of his wife, Nan.

staff and for his authors. From all of your many writers and readers, Bruce, our heartfelt thanks.

### ALFREDO A. SADUN, MD, PHD: ON A PERSONAL NOTE

I became friends with Bruce, having shared with him many committees and assignments on the American Board of Ophthalmology or American Academy of Ophthalmology.

I knew him to be a warm and kind gentleman and scholar. About 1996, I took on a challenge from my chairman, Steve Ryan, MD, to get more applicants into the Doheny residency program from the Ivy Leagues. I had trained at Harvard and might expect a kind reception there. But where else could I go with my plan to identify and solicit the best medical students?

I asked my trusted friend, Bruce. He helped me organize a yearly visit to Yale that included a neuro-

ophthalmology lecture following grand rounds in his department. He also urged me to give a general lecture to the medical school which would hopefully make a good impression on the academically minded medical students. And for this purpose, he suggested I expand on some broad and attractive topics we had discussed over our many dinners together.

So, topics as varied as the psychophysics of the French impressionists and conversations with Castro emerged. Every year, I thought long and hard on what would capture the imaginations of the best medical students and win Bruce’s admiration. Dinners with the Yale medical students led to new friendships and Doheny residents. But also, each year Bruce invited me to dinner at the Jonathan Edwards residential college at Yale, where Bruce’s very intellectual friends became my friends. I basked in his reflected goodwill.



## From the Editor's Desk



## Changes

By Alfredo A. Sadun, MD, PhD

**F**ive years ago, M. Bruce Shields, MD, became the editor of *Scope* Newsletter. His debut editorial was titled, “Changes” as he announced the passing of the baton, which he picked up from the late David W. Parke, MD.

Dr. Shields wrote of the big shoes that he had to fill in 2016. It was the same year I joined the Academy’s Senior Ophthalmologist (SO) Committee after Dr. Shields, a dear friend and mentor for decades, persuaded me that I had a role to play.

At the SO Committee, I learned about the efforts and challenges Academy SO members face. By the way, we SOs comprise about 40% of Academy membership. So, our perspective is broad. *Scope* is sent to 9,000 Academy members, both domestic and international. We feature articles on ophthalmic history, interesting hobbies, book reviews and issues through the prism of having lived ophthalmology for a long time. And, of course, we welcome readers (and authors) below age 60 as well.

I write in part to introduce myself as the new editor of *Scope*. The title, “Changes” matches that written by my predecessor, Dr. Shields, but it applies in the more general sense, as well. This past year has been a year like no other.

The big elephant in the room has been the COVID-19 pandemic and its effects on both our personal and professional lives. By the time you read this, our lives will have been upended for more than a year. Our health, that of our family and friends and colleagues, has been affected or jeopardized, as have our professional lives. Every patient I see is now separated from me by at least two masks. Our work is slower and tedious and, at least speaking for myself, not seeing my patients’ smiles, makes it just a little less rewarding.

My Socratic method of teaching medical students, residents and fellows in the clinic has been strained. The interactions my wife and I have enjoyed with our children, grandchildren and friends have been appreciably compromised. I’m sure, to paraphrase Russian author Leo Tolstoy’s *Anna Karenina*, that “every family suffers COVID in their own way.” Each ophthalmologist and all of you have been affected differently, but profoundly, by this pandemic and its indirect effects. As a result, we’ve all had many changes, professionally and personally. And change is hard.

Economists and psychological modelers talk about the constant balance between the conflicting needs to get information and to use that information. They describe schemes to optimize behavior in what they call, “[explore/exploit](#).” There are times that we want to try changes that allow us to learn more things about our environment (explore). And other times we would rather take advantage of what we already know and what is available (exploit). Whether we choose to explore, or exploit depends on how well we are doing and how distant is the time horizon.

As an example that preceded COVID-19, if I were to spend a few weeks at a new vacation house, I might, on arrival, try several new restaurants. Even after finding a few excellent choices, I might want to press on and explore new ones. I would emphasize exploration.

But as the last days of vacation arrived, I would probably choose to revisit my favorite places.

Similarly, we all did a lot of exploration while in college. We tend to explore most when we are young and less as we age and our lives became more settled. That is wise. But this optimal strategy also demands that we explore more when the environment changes. As well, if we feel we’ve changed, so our tastes may have also changed

---

*We SOs comprise about 40% of Academy membership. So, our perspective is broad.*

---

and exploration should be emphasized. As the title of this piece says, we are experiencing sea changes. So, let’s rethink this trade-off.

With a change in circumstances, we need to re-shift the balance towards explore. COVID-19 was a game changer. The COVID-19 pandemic transformed many things, primarily the practice of ophthalmology; the nature of teaching and research in academics; the process of retirement; life in retirement; relationships; and many of us are waiting for things to “go back to normal.”

First of all, this is turning out to be a long wait. Secondly, we are all coming to the realization that there will be a new normal, but it won’t be returning to the same old thing. So, even as old dogs, we must commit ourselves to learning new tricks. One of my favorite satisfactions was from teaching the medical students and residents in my little entourage. Now I’m learning to lay out my thoughts in these pages of *Scope*. It is time to shift to exploring not only the environment, but our own talents and passions, before we can optimally exploit what we’ve learned.

## From the Editor's Desk

I look forward to connecting with new and old friends through these pages. New challenges await and I am sure they will be rewarding. This is also a good time to pause and thank those that enabled this opportunity.

I thank the many people who help us put together the issues of *Scope*. Firstly, most of the heavy lifting for this publication is done by Neeshah Azam, who as SO's program coordinator and *Scope*'s assistant editor oversees every article, and Gail Schmidt, the Academy's director of ophthalmic society relations. I also thank, Daniel Albert, MD, MS, and his assistant Jane Shull for our ophthalmic history content; Thomas Harbin, MD, MBA, who remains as editor of our book review section. John Stechschulte, MD, is organizing articles on the many subtle challenges of retirement. Members of the SO committee will continue to contribute content and worthy articles; and most particularly Samuel Masket, MD, our committee chair whom I intend to make an integral part of this publication.

I would also like to take this opportunity to encourage you, our readers, to get involved. If you have a special hobby, if you like to write, or comment on a book you have read, let us know and we will share it with our colleagues in *Scope*. Please send your inquiries to my attention at [scope@aao.org](mailto:scope@aao.org).

### FURTHER RESOURCES

For those interested in a mathematical model of optimizing explore/exploit, read "[The Exploration-Exploitation Dilemma: A Multidisciplinary Framework](#)," by Oded Berger-Tal, Jonathan Nathan, Ehud Meron and David Saltz (PLoS One 9(4), 2014).

You may also wish to read the book review in this issue of *Scope* that further explores this Explore/Exploit strategy.



Commercial image of a xenon photocoagulator. Courtesy of the Truhlsen-Marmor Museum of the Eye®.

## Notable Dates in Ophthalmology

By Daniel M. Albert, MD, MS

### 10 YEARS AGO (2011)

Femtosecond laser-assisted cataract surgery was described as a major advance at the American Academy of Ophthalmology meeting.

### 25 YEARS AGO (1996)

Harry A. Quigley, MD, reported in the *British Journal of Ophthalmology* that glaucoma is the second leading cause of vision loss in the world, with an estimated 6.7 million people worldwide suffering from bilateral blindness as a result of it.



Harry Quigley, MD in front of a perimeter. Courtesy of the Truhlsen-Marmor Museum of the Eye®.

### 50 YEARS AGO (1971)

The distribution of commercial argon laser systems began, and these machines soon replaced xenon photocoagulators for treating retinal lesions.

### 100 years ago (1911)

André Magitot, MD, of Paris, published a report of a corneal lamellar homograft that remained clear for a year after surgery. In the same year Magitot made the observation that corneal tissue could be preserved for at least several days prior to use.

### 250 YEARS AGO (1771)

August Gottlieb Richter (1742-1812) in his text, *Observationum Chirurgicarum Continens de Cataractae Extractione Observationes*, advocated intracapsular cataract extraction over both couching and extracapsular cataract extraction.

### 500 YEARS AGO (1521)

Giacomo (Jacopo) Berengario da Carpi, an Italian physician, completed his book, *Isagoge Breves*. This work established him as the foremost anatomist before Andreas Vesalius.

## Legend in Ophthalmology: Bradley R. Straatsma, MD, JD

By Bartly J. Mondino, MD

**D**r. Straatsma is a giant and legend in ophthalmology who led the University of California, Los Angeles (UCLA) into becoming one of the world's premier centers for vision research, education, and patient care.

The son of a distinguished New York plastic surgeon, Dr. Straatsma was born in Grand Rapids, Mich. and obtained his undergraduate degree at the University of Michigan. He received his medical degree at the Yale School of Medicine, completed an internship at Yale and served in active duty as a lieutenant in the U.S. Naval Reserve. His ophthalmology residency was completed at the Harkness Eye Institute at Columbia University and was followed by two fellowships, one at the Armed Forces Institute of Pathology and the other at the Wilmer Eye Institute at Johns Hopkins University.

Dr. Straatsma was appointed to the UCLA faculty in 1959 as the first full-time chief of the division of ophthalmology. In 1961, Dr. Straatsma enlisted the support of Dr. Jules Stein -- a philanthropist, ophthalmologist, and founder of Music Corporation of America -- to establish the Jules Stein Eye Institute at UCLA, which opened its doors in 1966 and celebrated 50 years of achievement in 2016.

As founding director, Dr. Straatsma was responsible for the rapid growth of the institute and the associated department of ophthalmology. The institute and department have been consistently voted the best eye care center in the

western United States in *U.S. News & World Report* since the rankings began. Recognizing that advances in excellence demanded growth in facilities, Dr. Straatsma presided over the dedication of the Doris Stein Eye Research Center in 1988.

Dr. Straatsma has authored more than 575 scientific publications on subjects, including vitreoretinal disease, choroidal melanoma, and ophthalmic education. He has presented more than 50 distinguished and named lectures and received over 75 honors and awards, including



Bartly J. Mondino, MD and Bradley R. Straatsma, MD, JD, the only two chairs in ophthalmology at UCLA since 1966.

an honorary Doctor of Science degree from Columbia University, a Laureate award from the Academy and a Jules François Golden

Medal from the International Council of Ophthalmology (ICO).

Dr. Straatsma has served in the highest leadership positions in both national and international ophthalmology, including as president of the American Academy of Ophthalmology and Otolaryngology, American Ophthalmological Society, Association of University Professors of Ophthalmology, Pan-American Association of Ophthalmology and Academia Ophthalmologica Internationalis (AOI). He has also served as chairman of the American Board of Ophthalmology.

In addition to noting Dr. Straatsma's professional achievements, I would like to touch on his personal attributes. UCLA Clinical Committee meetings provided a valuable opportunity to watch Dr. Straatsma work through difficult and challenging situations, and his approach to leadership should be emulated widely. Dr. Straatsma was always calm and deliberate, and in the face of insurmountable opposition, he always returned with a better plan for ready adoption.

Both before and after his presidency, Dr. Straatsma has been heavily involved with the Academy. His relationship with the Academy began when Dr. Straatsma served as the first secretary for continuing education in ophthalmology. He and Dr. Bruce Spivey transformed the former home study course into the current ophthalmology Basic and Clinical Science Course™. Dr. Straatsma was the last person to serve as the president of the American Academy of Ophthalmology and Otolaryngology, and he presided over the difficult process of separating the organizations and incorporating the two individual academies: the American Academy of Ophthalmology and the American Academy of Otolaryngology.



## Bradley R. Straatsma, MD, JD

In 1987, he edited, “Eye Care for the American People,” an invaluable document that provided the Academy with a blueprint to guide ophthalmologic care for the American public.

As editor-in-chief of the *American Journal of Ophthalmology* from 1993–2002, he revitalized the publication. He made substantial editorial innovations, strengthened the peer review process, enhanced the appearance of the journal, and introduced its website, [ajo.com](http://ajo.com) — propelling the *American Journal of Ophthalmology* into the digital age.

After stepping down as chair of the UCLA Department of Ophthalmology and director of the Stein Eye Institute in 1994, Dr. Straatsma attended the University of West Los Angeles School of Law and received his juris doctor degree in 2002.

Dr. Straatsma is committed to globally advancing eye care. He co-chaired a joint meeting of the ICO and the AOI for global ophthalmology planning, and he was the primary author of the resulting “Vision for the Future — International Ophthalmology Strategic Plan to Preserve and Restore Vision,” published in 2002. The strategic plan resulted in a formal curriculum for worldwide ophthalmology educa-

tion of medical students, residents, and para-ophthalmic specialists, as well as a series of ophthalmology residency program director courses held throughout the world.

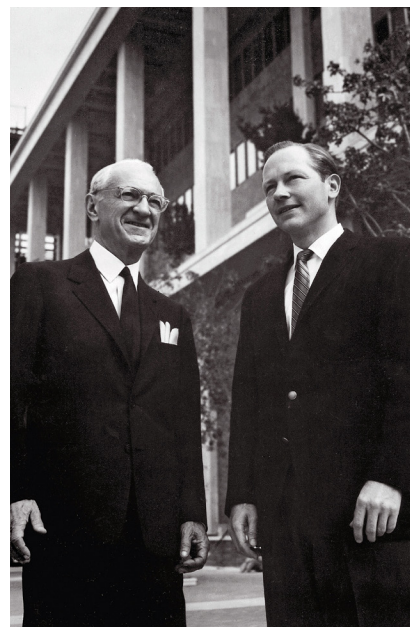
Dr. Straatsma is a trustee of the Africa Eye Foundation and was directly involved in establishment of the Magrabi ICO Cameroon Eye Institute at Yaoundé, Cameroon. The institute, which opened in 2016, serves to improve, preserve, and restore eye health and vision for the people of central Africa.

What people may not know about Dr. Straatsma is the importance that music has played in his life. He was an accomplished trombone and baritone saxhorn player, even performing as a soloist in national competitions. He was a member of the University of Michigan’s marching band, and he played in a concert band, a jazz band, and various ensembles throughout school.

In its early years, the medical school at UCLA had a faculty band that Dr. Straatsma joined upon his arrival to the university. The band would play at the nearby Bel Air Country Club, record their performances, and then play the recordings back to themselves as they ate dinner. Unfortunately, as far as anyone knows, those recordings have not survived after all these years. Eventually, with the pressures of academic life, performing fell by the wayside, and Dr. Straatsma never picked up his trombone again.

Nevertheless, music has remained an important part of his family’s life. Ruth, Dr. Straatsma’s wife of 65 years, was an accomplished musician and active supporter of the Los Angeles Philharmonic, and they were frequent attendees at the Los Angeles Music Center’s Disney Concert Hall. Music also created a bond between Dr. Straatsma and Dr. Jules Stein — who was a jazz musician, and they shared many conversations about their mutual love of music.

Before joining the UCLA faculty, Dr. Straatsma served in the U.S.



Jules Stein, MD and Bradley Straatsma, MD

Navy as a physician for the Navy’s Underwater Demolition Team, the precursor to today’s Navy Seals. He became close with the “Navy frogmen” (as they called themselves at the time), with whom he served on submarines. With them, he learned to scuba dive long before it became a common recreational sport. Eventually, his entire family became certified scuba divers, and for years, he and Ruth would combine travel to medical conferences with dive trips throughout the world.

In closing, Dr. Straatsma’s character deserves comment. He is recognized for his honesty, integrity, and fairness. I have never known him to be harsh, abrasive or insulting to anyone. His calm demeanor was always evident no matter how difficult the circumstance. At an event celebrating his leadership at UCLA, I was asked to make comments about his career, and I stated that he was the “finest chair in ophthalmology.” I have no reason to change this statement.

*Editor’s note: We are grateful to our History of Ophthalmology editor, Daniel M. Albert, MD, MS, and his editorial assistant, Ms. Jane Shull, who contributed to the editing of this article.*



Dr. Straatsma and his wife Ruth

# Impact of Race and Inequities in Eye and Health Care

By Samuel Masket MD

**T**here is a growing interest in our society for diversity, inclusivity, and justice. What has not been widely appreciated until recently is that there are significant public health care consequences to racial disparity in delivery of care.

On Sept. 16, 2020, a ophthalmology grand rounds session at UCLA was devoted to this subject. Under the guidance of Lynn K. Gordon, MD, PhD, professor of ophthalmology and senior associate dean of equity and diversity inclusion at UCLA's David Geffen School of Medicine, residents gave excellent presentations, resulting in a very informative and stimulating session. Their presentations serve as the majority of the basis for this article.

It is interesting to note that concerns about racial disparity in health care were known to Dr. Martin Luther King Jr. who stated, "Of all the forms of inequality, injustice in health care is the most shocking and inhuman."

The "graying" of our society also has large implications on the incidence of vision loss and blindness. By the year 2030 the population over age 65 will be approximately 70 million, twice what it was in 2000, and they will outnumber teenagers roughly 2-1.

Another consideration can be noted in figure 1, where by 2025 the number of Americans between the age of 55 and 80 will reach nearly 90 million, up from just under 60 million in 2006, significantly impacting the incidences of cataract, macular degeneration and glaucoma.

In the case of the latter group, access to care becomes of monumental significance regarding blindness and public health. With

societal graying and a declining workforce in ophthalmology, the availability of care suffers disproportionately in underserved populations and regions.

Without doubt, vision loss is a major public health issue. In 2004, an estimated 3.3 million people in the U.S. were visually impaired or blind, with that number now 50% larger due to societal aging. Poor vision reduces productivity, increases need for support systems, and induces greater risks for falls, injuries and premature death. Moreover, vision loss is not uniform across adult populations and demographics, being higher in women, the aged, and those of lower socioeconomic status with racial inequity.

As early as 1985 the landmark report, "Report of the Secretary's Task Force on Black and Minority Health," issued by then U.S. Health and Human Services Secretary Margaret Heckler, concluded that health disparities accounted for 60,000 excess deaths each

year and that six causes of death accounted for more than 80% of mortality among Blacks and other minority populations. It further outlined several recommendations to reduce health disparities and revealed the need to improve data collection among Hispanic, Asian American, and American Indian/Alaska Native populations where national health data were limited or lacking. Additionally, the Black population was reported to have a higher mortality rate than other ethnicities for eight of the 10 top causes of death. Subsequently, a 2002 analysis estimated that the mortality gap between Blacks and whites accounted for nearly 85,000 excess deaths among Blacks that resulted in greater than \$80 billion annually lost to health care expenditures and loss of productivity.

Let's consider the underlying reasons for racial health disparity:

- Genetics
- Socioeconomic
- Environmental
- Structural racism

Structural racism is the "totality of ways in which societies foster (racial) discrimination, via mutually reinforcing (inequi-

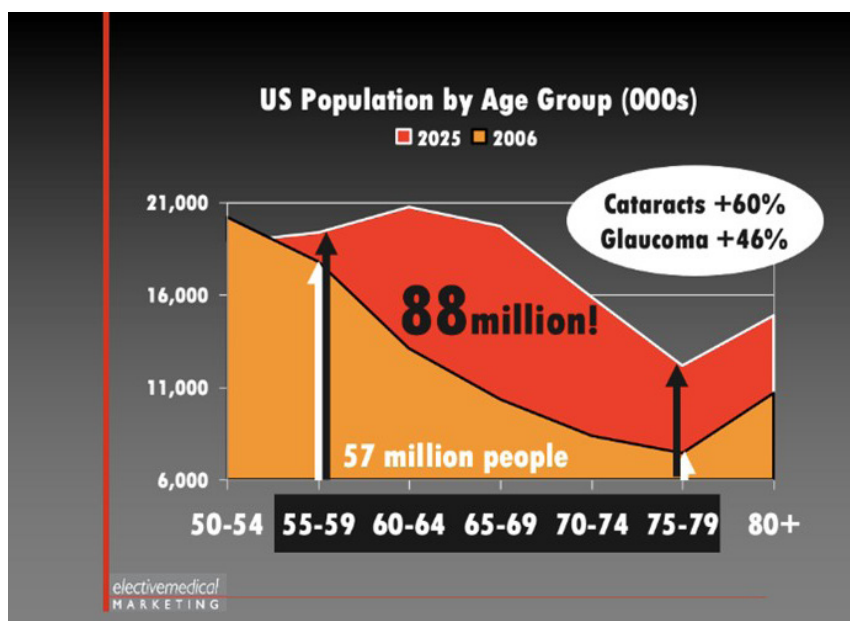


Figure 1. Demographic changes in U.S. population between 2006 and 2025 reflect an aging of society.

## Impact of Race

table) systems (housing, education, employment, earnings, benefits, credit, media, health care, criminal justice, etc.) that in turn reinforce discriminatory beliefs, values and distribution of resources,” reflected in history, culture and interconnected institutions.<sup>1</sup>

Institutional racism refers specifically to racially adverse “discriminatory policies and practices carried out (within and between individual) state or non-state institutions” on the basis of racialized group membership.

Racism has a direct impact on residential segregation, occupational and educational opportunities, and health care access, utilization and quality of care at the neighborhood level. A historic example can be found in Manhattan Beach, Calif., in an area referred to as Bruce’s Beach. According to a *Los Angeles Times* story from Aug 2, 2020, in the early years of the 20th century, the Bruce family, who were Black, purchased a parcel

of property in Manhattan Beach and developed a rather successful resort complex that was highly supported by the Black community.

However, white neighbors, fearing a reduction in property values, along with the KKK and city officials terrorized the owners and forced the resort to close. The property remained vacant for three decades. (For those familiar with the history of South Africa, this is quite similar to the District 6 legacy under apartheid in Cape Town.) This had a very deleterious effect on the family and the Black community in general. However, it is but a microcosm of how marginalized racial groups are forced into socioeconomically disadvantaged communities with hazardous environments that in turn lead to:

- Higher infant mortality rates
- Increased exposure to environmental pollutants
- Increased crime, homicides and incarceration
- Increased risk of chronic diseases and decreased longevity

As a result, these communities have fewer financial resources for health care infrastructure which can lead to:

- Lower quality and smaller number of health care facilities
- Difficulty in recruiting qualified and expert providers
- Poor access to care
- Underutilization of health care facilities and providers

A contemporary example may be seen with regard to the COVID-19 pandemic and the fact that hospitalization and death rates are markedly higher in communities of color, whereas vaccination rates are substantially lower.

The following table further illustrates socioeconomic impacts on health, life quality and longevity.

It is obvious that for the majority of health-related concerns reported in Table 1, the Black non-Hispanic community suffers the greatest inequities, particularly when compared with Asian and White non-Hispanic groups. It is interesting to speculate on the significantly higher number of

	Total	White non-Hispanic	Asian*	Hispanic or Latino	Black non-Hispanic†	Native American or Alaska Native
Wealth: median household assets (2011)	\$68 828	\$110 500	\$89 339	\$7683	\$6314	NR
Poverty: proportion living below poverty level, all ages (2014); children <18 years (2014)	14.8%; 21.0%	10.1%; 12.0%	12.0%; 12.0%	23.6%; 32.0%	26.2%; 38.0%	28.3%; 35.0%
Unemployment rate (2014)	6.2%	5.3%	5.0%	7.4%	11.3%	11.3%
Incarceration: male inmates per 100 000 (2008)	982	610	185	836	3611	1573
Proportion with no health insurance, age <65 years (2014)	13.3%	13.3%	10.8%	25.5%	13.7%	28.3%
Infant mortality per 1000 livebirths (2013)	6.0	5.1	4.1	5.0	10.8	7.6
Self-assessed health status (age-adjusted): proportion with fair or poor health (2014)	8.9%	8.3%	7.3%	12.2%	13.6%	14.1%
Potential life lost: person-years per 100 000 before the age of 75 years (2014)	6621.1	6659.4	2954.4	4676.8	9490.6	6954.0
Proportion reporting serious psychological distress‡ in the past 30 days, age ≥18 years, age-adjusted (2013–14)	3.4%	3.4%	3.5%	1.9%	4.5%	5.4%
Life expectancy at birth (2014), years	78.8	79.0	NR	81.8	75.6	NR
Diabetes-related mortality: age-adjusted mortality per 100 000 (2014)	20.9	19.3	15.0	25.1	37.3	31.3
Mortality related to heart disease: age-adjusted mortality per 100 000 (2014)	167.0	165.9	86.1	116.0	206.3	119.1

NR=not reported. \*Economic data and data on self-reported health and psychological distress are for Asians only; all other health data reported combine Asians and Pacific Islanders. †Wealth, poverty, and potential life lost before the age of 75 years are reported for the black population only; all other data are for the black non-Hispanic population. ‡Serious psychological distress in the past 30 days among adults aged 18 years and older is measured using the Kessler 6 scale (range=0–24; serious psychological distress: ≥13). Sources: wealth data taken from the US Census;§ poverty data for adults taken from the National Center for Health Statistics;¶ and poverty data for children taken from the National Center for Education Statistics;§ unemployment data taken from the US Bureau of Labor Statistics;¶ incarceration data taken from the Kaiser Family Foundation;¶ data on uninsured individuals taken from the National Center for Health Statistics;¶ data on infant mortality, self-assessed health status, potential life lost, serious psychological distress, life expectancy, diabetes-related mortality, and mortality related to heart disease taken from the National Center for Health Statistics.¶

Table 1. Socioeconomic and associated health related data by race. From: Bailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *Lancet*. 2017 Apr 8;389(10077):1453–1463.



## Impact of Race

medically uninsured in the Hispanic population, but that could be reflective of a higher proportion of undocumented aliens for that ethnicity.

How do these factors relate to health care and specifically eyecare? We note in Table 1 that Black non-Hispanics have twice the diabetes related mortality than do white non-Hispanics. Blacks, therefore, need specifically careful management with respect to diabetes and diabetic retinopathy. Figure 2 reveals a changing demographic with respect to visual impairment from diabetic retinopathy, with Blacks demonstrating a higher incidence of related vision loss in the period from 2016 to 2017, whereas white non-Hispanics experienced a decline between 2008 and 2017. Similarly, with regard to vision impairment from glaucoma, as we can note in Figure 3, Black non-Hispanics have the greatest incidence of vision impairment. As a surrogate for general access to eye care, Figure 4 reveals that Blacks have the highest per capita overall rate of blindness and visual impairment of all racial groups in children and adolescents.

While racial predilection to eye disease may impact prevalence, with glaucoma as an example, access to care is an issue of major concern with regard to populations of color. Among the issues are fewer care givers in neighborhoods with lower economic opportunity, and a disproportionately low number of Black physicians, ophthalmologists in particular. There is public health evidence that access to care improves when the physician community reflects the local population at large.

Let's consider the following: According to the 2014 US census estimates, underrepresented minorities (URM) (Black, Hispanic, Native American, Native Alaskan, and Pacific Islander) account for 30.7% of the U.S. population yet only 6% of practicing ophthalmologists, 7.7% of residents, and 5.7% of faculty fall into those demograph-

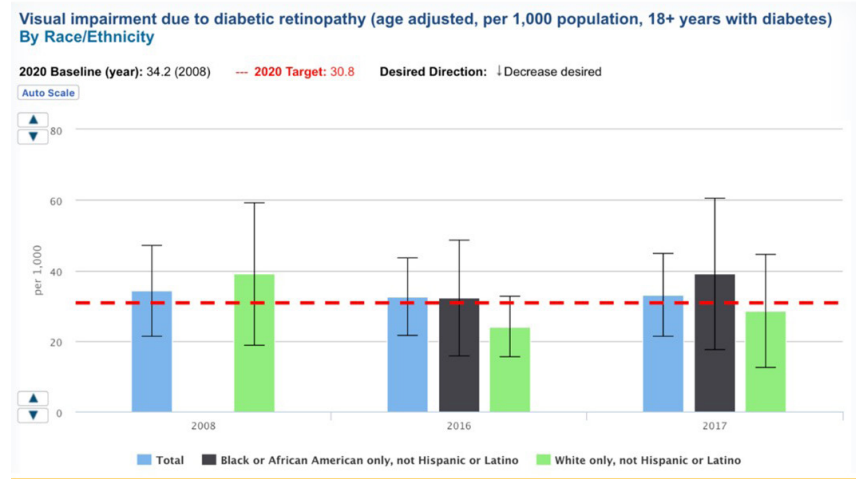


Figure 2. Visual impairment due to diabetic retinopathy in various ethnicities. Note the disparity between the Black and White communities for 2017. Data source: U.S. Census Bureau National Health Interview Survey; the Centers for Disease Control and Prevention, National Center for Health Statistics (CDC/NCHS).

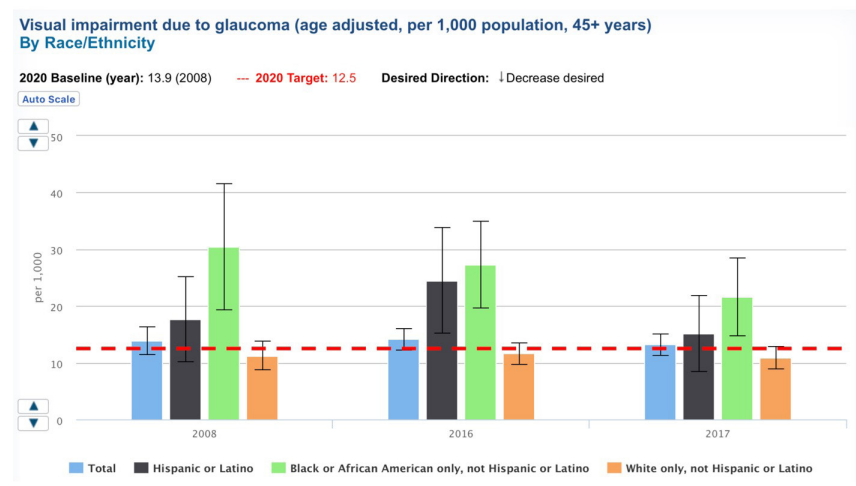


Figure 3 - Visual impairment due to glaucoma. One can note the greater incidence of glaucoma induced vision loss in the Black population across all time gates. Data source: US Census Bureau National Health Interview Survey; the Centers for Disease Control and Prevention, National Center for Health Statistics (CDC/NCHS).

ics. This is a matter of great significance as there is an unfortunate but genuine historic mistrust of health-related government programs in the Black community.

This can be well understood when considering the egregious Tuskegee Syphilis Study of 400 black men that was initiated in

1932 and did not end until it was “uncovered” by the press in 1972. In that investigation by the U.S. Public Health Service, black men with latent syphilis were recruited and told that they would receive free healthcare and treatment from the government. In reality, and without their consent, many of the men were not treated so that the natural his-

## Impact of Race

tory of the disease could be studied. About a third of the men died of the disease or related causes and some transmitted it to their spouses and in turn to their offspring.

Once discovered, this markedly unethical behavior by the government was the nidus for significant reform and on May 16, 1997, President Clinton formally apologized on behalf of the United States to victims of the study, calling it shameful and racist. “What was done cannot be undone, but we can end the silence,” he said. “We can stop turning our heads away. We can look at you in the eye, and finally say, on behalf of the American people, what the United States government did was shameful and I am sorry.” The Tuskegee incident continues to play a role in access to and acceptance of health care in the Black Community, as there is reluctance, particularly among young Black men, to accept vaccination against COVID-19.

This example easily explains a sense of distrust toward public health care initiatives in communities of color and makes the case for the need to level the playing field with regard to the number of URM physicians. Moreover, in non-English speaking communities, language barriers may also sow the seeds of distrust.

How can we improve these inequities? With respect to the future of eye care, one path is to encourage, expand, nurture, and engage URM students to consider ophthalmology as a career choice. The AAO, in partnership with the AUPO has developed the Minority Ophthalmology Mentoring (MOM) program in attempt to increase diversity in ophthalmology by helping qualified medical URM students become competitive residency applicants. Mentors are matched one-one with students to help guide them forward, promote their involvement in research, publications, etc. More-

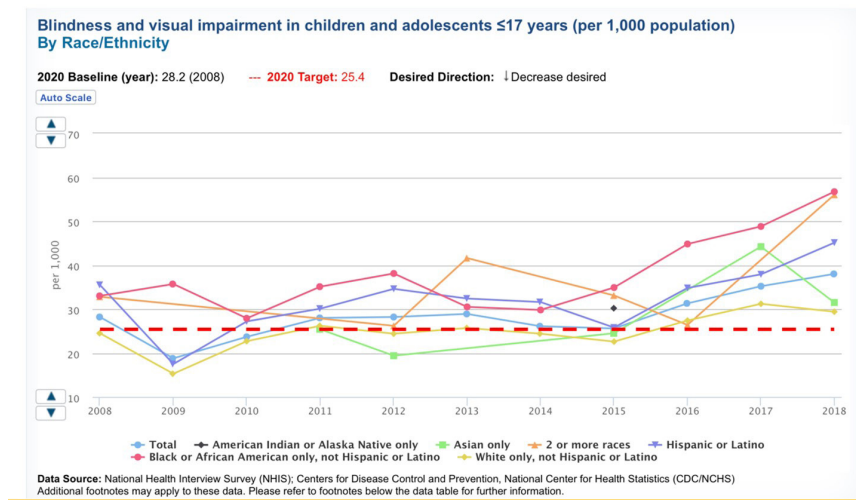


Figure 4 – Visual impairment and blindness in children and adolescents less than 17 years of age across various ethnicities, revealing the highest proportion among Blacks. *Data source: US Census Bureau National Health Interview Survey; the Centers for Disease Control and Prevention, National Center for Health Statistics (CDC/NCHS).*

over, some academic departments identify potential medical student candidates and encourage them. The AAO supplies learning materials and medical students have the opportunity to participate in an 8 month on-line prep course for Step 1 of the USMLE (medical licensing exam). While this program concentrates on just a few students at a time and will take years to bear fruit, it is a positive move.

Another such initiative is the Rabb-Venable Excellence in Research Program (RV) in conjunction with the National Medical Association. The goal of the program is to increase the number of URM physicians in ophthalmology and academic medicine. The program is a pipeline process to expose medical students and residents/fellows to role models, to the skills needed in medical practice and teaching, and to research opportunities while providing mentors.

Approximately 6% of the practicing ophthalmologists in the US are made up of under-represented minorities that constitute 31% of the U.S. population. Increasing the number of minority practitioners would improve access to

eye care in underserved communities as these physicians are more likely to practice in these communities than are majority physicians. Recruiting more under-represented minority medical students to the field of ophthalmology and supporting these already in residency programs will help start to decrease healthcare disparities and inequities in the U.S.

*Author's note: With gratitude I acknowledge image contributions from:*

Anh Pham, MD, PGY-4,  
Stein Eye Institute, UCLA

Andrea Yonge, MD, PGY-4,  
Stein Eye Institute, UCLA

Andres Parra, MD, PGY-3,  
Stein Eye Institute, UCLA

Lynn K Gordon, MD, PhD, Professor of Ophthalmology and Senior Associate Dean, Equity and Diversity Inclusion, David Geffen School of Medicine, UCLA

Stacy L. Pineles, MD, MS, Associate Professor of Ophthalmology and Residency Program Director, Stein Eye Institute, David Geffen School of Medicine, UCLA



## Robert E. Tibolt, MD, PhD: Making Maps with Projections and Perspective

By Alfredo A. Sadun, MD, PhD

**B**ruce Shields, our dear friend, just retired as editor of *Scope*. He had a favorite section that he wrote for each issue which he called, “*What We Are Doing Today*” series.

He told me it was his favorite part of *Scope*, as it allowed him to become better acquainted with some of our colleagues and, in the process, discover new and interesting things. It is my intention to keep this series up. So I asked Dr. Robert E. Tibolt to get the ball rolling, and he was a wonderful choice, contributing to this article in many ways.

Dr. Tibolt grew up loving science, building models, and poring over encyclopedias, dictionaries, and maps. However, the only profession he ever wanted to pursue was that of being a physician. His love of maps became a love of mapmaking, which he now pursues professionally having retired from ophthalmology.

Dr. Tibolt attended Dartmouth College, where he majored in English, played football, attended a foreign study program in Germany, took a pre-med curriculum and learned to make maps. As a sophomore, he took a course in physical geography from Professor Van English. This fascinating course described many of the important surface features of the earth. As it happened, English demonstrated numerous landforms with examples from Nevada, which Tibolt knew personally from having lived there since

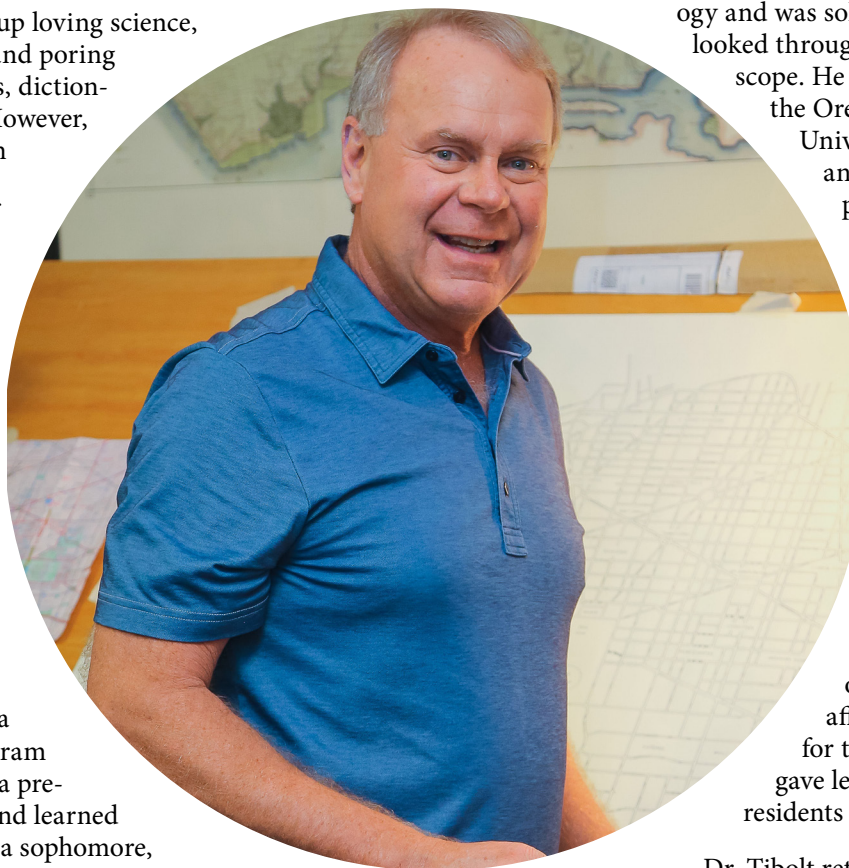
the age of 12. Tibolt also attended a seminar in cartography taught by English. The course had a didactic component, teaching theory, history and projections, and a studio component with instruction for making maps in a professionally equipped drafting laboratory. English would make most of his points by drawing detailed freehand maps. He had the entire world in his mind having served as Gen. George Marshall’s private cartographer during World War II. He worked for the U.S. Office of Strategic Services (OSS), where it was said that he created false maps for distribution to

English revealed its identity by asking, “What’s going on in Iwo Jima?” That almost landed him in the brig.

The class required a series of exercises to instill the skills needed for cartography, which included meticulous attention to detail, maximum preparation, minimal margin for error and confidence in one’s knowledge (sound familiar, doctors?). As a final project, Dr. Tibolt made a map of his overseas travels that included a unique projection to highlight his overland journey to Beirut, arriving just in time for the Lebanese Civil War in 1975.

Dr. Tibolt went on to earn his PhD in anatomy at the University of Texas (UT) Medical Branch, and his MD at the UT Health Science Center in San Antonio. Dr. Tibolt took a rotation in ophthalmology and was sold the first time he looked through a slit-lamp microscope. He did his residency at the Oregon Health Sciences University program and joined a private practice group in Salem, Ore., where he practiced for 26 years providing general ophthalmology to his patients and community. He was also active in advocacy, serving as legislative chair for the Oregon Academy for 20 years and serving on numerous state affairs assignments for the Academy. He gave lectures and staffed residents in Portland.

Dr. Tibolt retired fully in 2018 and moved back to his home in Nevada. He continued to make maps as he had in college. He started with a drafting set from a pawn shop in Reno which he developed into a professionally equipped drafting studio and gallery in Las Vegas. Tibolt has a business mak-



Robert E. Tibolt, MD, PhD

the Germans. There is a tale that he once entered a Pentagon war room with Gen. Marshall and, seeing an unlabeled island marked with ships, aircraft and ground troops,

## Robert E. Tibolt, MD, PhD

ing custom maps and large format maps in his “Great American Cities” series. So, his passionate avocation became his new vocation.

He uses traditional techniques of pen and ink, mechanical lettering, and coloring, all by hand, to make his maps. Dr. Tibolt feels that making maps by hand is neuropsychologically equivalent to performing ophthalmic surgery. Unless one is an intrepid explorer like Capt. James Cook, maps are made from other maps, with the cartographer changing the scale, projection, and other elements to achieve the desired design. Almost all maps today derive from a computerized system called Geographic Information Systems (GIS). While powerful and full of many layers of information, GIS offers no artistic character or the uniqueness of something made by hand. An aerial photograph is not a map. Only the latter emphasizes important features and relationships. Tibolt has assembled a large assortment of maps, but these are mostly material for his base maps and creations, and he does not consider himself to be a map collector.

The master cartographers of the Age of Discovery created maps that are unparalleled in their beauty and craftsmanship. These artists were also



Dr. Tibolt demonstrating mechanical lettering.

philosophers and scientists of their day who relied on reports and data from the explorers themselves to create a geographic, political, social, or even scientific world view and express this through their maps. These were engravings; the original work was done on metal sheets, in mirror image to the final (as in indirect ophthalmoscopy). The newly created map was often shrouded in secrecy to protect the national interests of the cartographer's country; knowledge was surely power. Gerardus Mercator is widely regarded as the greatest and most influential of these masters. His new projection view facilitated direct plots to set the course for sailors, and his prolific production of atlantes and individual sheets bore the latest and most accurate depictions of the New World and the world at large.

People love maps. Once a person sees a map, he or she is drawn into another world that stretches their

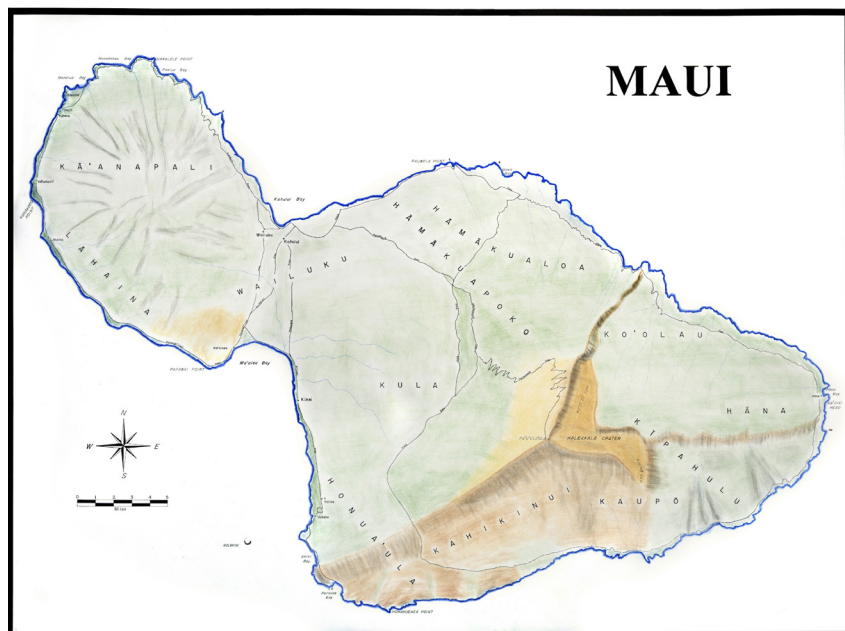
imagination by provoking thoughts of travel or foreign cultures. The most popular custom maps that Dr. Tibolt creates are travel maps depicting people's most memorable trips, honeymoons, and adventures. Maps are the most common form of art that conveys a sea of detailed concrete information.



Sala Dello Scudo. The map room at Doge's Palace, Venice.

On a personal note, I remember visiting the magnificent Doge's Palace in Venice. It was remarkable for its collections of Renaissance art (especially Hieronymus Bosch and Jacopo Tintoretto who depicted their views of heaven and earth respectively) but also for the map room (sala dello scudo) that dramatically displayed giant examples of the art form Dr. Tibolt has made into a new career. In this map room, you saw the source of Venetian sea power, understood the basis of the Mediterranean economy, as well as the influences of religions and cultures on the Venetian world view. When you have access to many maps, you see them as mirrors that project your own knowledge, experiences, cultures, and hopes, right back to you.

Dr. Tibolt lives in Las Vegas with his wife Susan, and works half-time at cartography in his business ArtMapMaker. His work can be viewed at [artmapmaker.com](http://artmapmaker.com).



Dr. Tibolt's map of Maui, created for an ophthalmologist friend.



## Edward W.D. Norton: Building Bascom Palmer from the Ground Up

By Douglas R. Anderson, MD

A man of great character, Edward W.D. Norton, MD (1922-1994) was a prominent 20th-century ophthalmologist who in the 1950s and '60s laid the groundwork for the Bascom Palmer Eye Institute at the University of Miami.

### PRINCIPLES

When Dr. Norton was asked to what he might attribute the success of the Institute, he provided a list of principles that he followed. These traits reflect the man. These principles are recast here.

**Integrity** was his prime principle. He demanded it of himself and others. No matter what other talents you might have as you applied for a training position or to join his team, you were not welcome if you lacked integrity. **Integrity** encompassed selflessness, compassion, and a sense of obligation to the community — these became an infectious ethos that dominated the culture of the Institution.

**Credibility** meant having the facts before clinical and administrative decision-making. Fact-based confidence leads to predictable behavior. He was not arbitrary. He mentioned further, “Be organized: Have a plan with a vision of the outcome and an ability to balance priorities. During your implementation of decisions, back up what you plan; [then] move ahead.”

**Develop key faculty** and “let key faculty be the stars; don’t

you try to be the brightest star in the universe.” Promote individual development: Tell each of them, “Be the best you can be.”

Flexibility to **accept the eccentricities**: “Don’t try to change them but adapt to the needs of individual faculty.” An offer to join the faculty started with details of what he, as chairman, would provide — an environment conducive to professional growth and success,



Edward W.D. Norton, MD

an office, secretarial services, a laboratory, compensation, support of professional travel, etc. The next paragraph stated simply, “For your part, I expect you to become the best academic ophthalmologist of which you are capable.”

It is important for the chairman to **listen**. You do not have to

agree. Be genuine when you say, “I appreciate your opinion about this; I just don’t happen to agree.”

Dr. Norton’s eldest daughter wrote: “He had the rare ability to hold strong convictions while not being judgmental toward others who held different views.” She also commented that despite having so many things going on, when he conversed with you it was as if you were the only person on his mind.

**Capacity to delegate.** Issue both responsibility and authority. I remember a time early in my career when Norton and others were to be away, so he left me in charge. He told me that he doubted any decisions of import would arise, but if they did, I should decide whatever I thought best. He said that he might not agree with a decision, but when he returned, he would uphold it. I was pleased that he trusted me. Fortunately, no decisions of much import came up.

**Be a caretaker:** like a gardener, “Pick the plants, cultivate the flowers, watch the blooms.” He was ever so careful when choosing faculty, staff, and trainees. Then he nurtured them.

### Loyalty to the institution:

“Chairs and faculty may go, the department may change in strength, the Institution is forever.” Loyalty extended to the faculty. Once you were a member of his team, he would do anything to have you succeed. Professional travel was an opportunity for faculty members to attend and to speak at a symposium, to learn from other participants, to be heard and respected, and to enhance the Institute’s reputation. He was also loyal to the University, serving as interim dean of the medical school

## Edward W.D. Norton, MD

when the position became vacant in 1991, although he would rather have focused on Bascom Palmer.

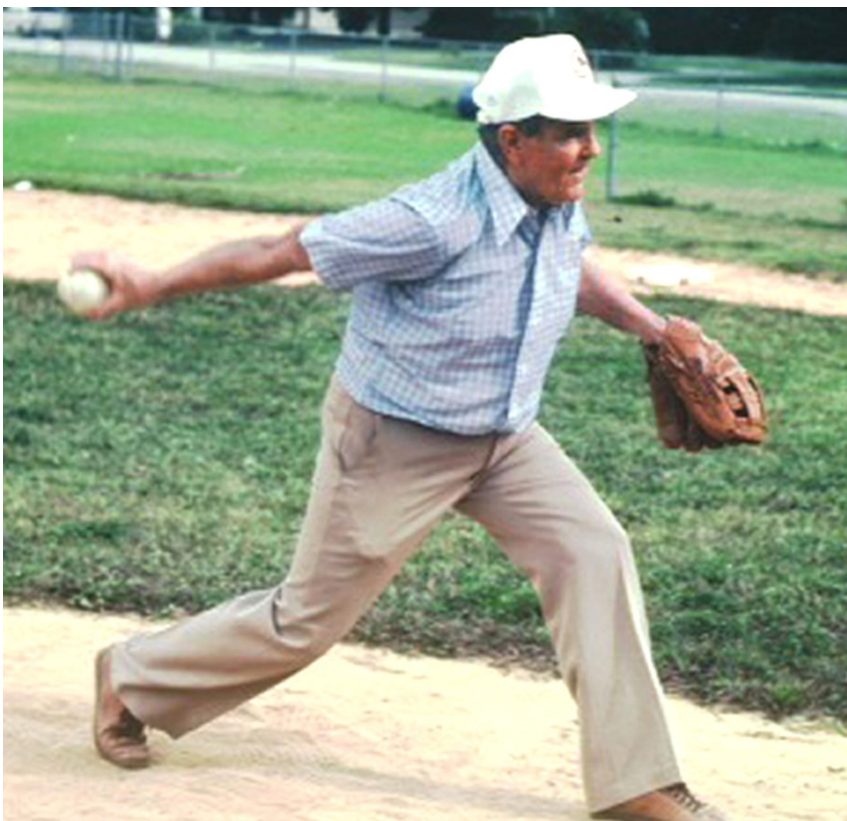
Bascom Palmer was to be an Institution of the highest quality. The faculty invested in the Institute by donating any “excess” clinical earnings (after overhead costs and promised faculty salaries had been paid), rather than taking the “excess” as a bonus, which University policy would have permitted. The faculty were with him in making a first-class institute.

### ORIGINS

Dr. Norton was born in 1922 in Massachusetts, from a family of Irish immigrants. He was a delicate child and was taken to warm beaches, sometimes in Florida.

His mother died when he was 19. After graduating from Harvard College in 1943, Norton went to Cornell Medical School. He was inducted into the U.S. Navy and met Mary Knesnik, a student nurse. They married in 1945 and had five children. Dr. Norton was called to active duty and assigned to the Oakland Naval Hospital and later the port of San Diego, where Mary was able to join him. While there, he developed bulbar polio. When he recovered, he was assigned to complete his time on an ophthalmology service instead of sea duty on a destroyer.

Dr. Norton took 15 months of residency training in neurology before starting an ophthalmology residency at Cornell Medical College-New York Hospital. But illness struck yet again; he was discovered to have pulmonary tuberculosis, which required six months of hospitalization. He then completed his ophthalmology residency, and afterwards undertook 15 months of additional training in two fellowships in neuro-ophthalmology — one at the Wilmer Institute of Johns Hopkins University (Dr. Frank Walsh) in Baltimore and another at the Mas-



Dr. Norton loved baseball, here in a 1981 faculty vs. residents game.

sachusetts Eye and Ear Infirmary (Dr. David Cogan) in Boston.

In 1954, Dr. Norton became an instructor in surgery (ophthalmology) at Cornell Medical College-New York Hospital. He was quickly recognized as the only person in New York City who could successfully repair a detached retina, using skills he had learned from Dr. Charles Schepens in Boston. In November that same year, Dr. Norton learned that a medical school in Florida was looking for a chief of ophthalmology, and by mid-1958 the Norton family moved to Miami.

Dr. Norton loved people. From childhood, his innate charm captured many classmate friends. He could strike up a conversation with a stranger, always talking about the stranger's life and interests rather than his own. He was eager to learn about whatever area of knowledge he hadn't experienced before. All were captivated by his charisma.

Mary was of similar ilk, having gone into nursing because

some of her high school friends had been casualties in the war. She was exceptionally popular, vivacious, outgoing, and joyful. She endured the hardships of being married to a man who responded to war-time obligations, who met the demands of his medical education, and who faced illnesses and unexpected obstacles while he climbed to the top of his profession.

### CHRONOLOGY IN MIAMI

Dr. Norton was offered a faculty position at the University of Miami School of Medicine as the full-time head of ophthalmology in 1958. The medical school was young, having graduated its first class in 1956. Miami had been growing since the end of World War II. Volunteer part-time faculty had established an ophthalmology residency with five residents at Jackson Memorial Hospital as the teaching hospital for the Medical School.

Dr. Bascom Headon Palmer died in 1955 after serving for 20 years as a member of the University of Miami Board of Trustees. Palmer's



## Edward W.D. Norton, MD

patients included the carriage trade, and he accumulated a fund to establish an eye clinic to provide “eye care for indigents and others, treatment and research, conservation of sight, and dissemination of information.” This coincided with Dr. Norton’s goals, and Dr. Palmer’s widow offered the fund to Dr. Norton, urging that the new institute be named for her husband.

Dr. Norton recruited additional faculty in 1959 beginning with his closest friend and confidant, Dr. Victor T. Curtin, a retina specialist and a pathologist. Dr. J. Lawton Smith came in 1962 as a neuro-ophthalmologist. Dr. J. Donald M. Gass joined as a retinal specialist. The fifth ophthalmologist was the pediatric ophthalmologist, Dr. John T. Flynn. Two laboratory scientists, Thorne Shipley and Duco I. Hamasaki, came in 1963.

As an upgrade to the residency program, Dr. Norton made himself personally available to the residents whenever they needed help with a patient, and he came to the operating room when the residents performed surgery. He instituted Saturday morning teaching conferences. Afterwards, all faculty and trainees, were welcomed to his home with their families for an afternoon picnic with swimming and games (especially tennis), as an informal social event. It was a close-knit community.

Dr. Norton immediately engaged the community practitioners. Many continued to teach residents as voluntary faculty and attended the weekly grand rounds on Thursday mornings. Norton also inspired them to social responsibility and teamwork. For example, he expressed concern about the long-term safety of newly developed intraocular lenses for implantation at the time of cataract removal.

The immediate optical advantages were obvious to surgeons and



Dr. Norton and his family with their red Volkswagen van.

patients, but Dr. Norton suggested not implanting more of them until the long-term safety was better known. Dr. Norton suggested a community-wide moratorium, to be conducted and supervised by a committee of the community, not the Institute, and that a resident be assigned to examine each patient annually and report the results. He also established a policy that patients would be seen by the full-time faculty only by referral and would be sent back to the referring doctor after consultation or requested treatment.

Drs. Norton and Curtin shared two small offices and an examination room in Jackson Memorial Hospital, using two operating rooms dedicated to eye surgery. Meanwhile, they used part of their private clinical earnings to air-condition, clean, paint and upgrade the ward for Blacks in the racially segregated hospital. His biographer, John Flynn, commented that they knew they could not abruptly change the social culture of the time, but this much they could do.

The first building of the Bascom Palmer Eye Institute appeared in 1961. It provided offices, laboratories, and outpatient examination rooms. The faculty grew in number and flourished. Many became national and international leaders. Demand for clinical services

expanded faster than could be met. Miami itself grew, especially with a major immigration from Cuba and later the rest of Latin America. As the Institute’s reputation grew, patients from all around the world were referred for consultation or specialized treatment.

Today, there are 83 full-time ophthalmology faculty and 12 optometrists providing clinical care, and 19 full-time non-clinical faculty scientists. The clinical training program now accepts 7 ophthalmology residents each year for 3 years of training (which along with two co-chief residents is 23 at any given time), plus 38 clinical fellows for extended training in subspecialties, as well as medical students taking an elective course in ophthalmology. There are in addition 6 optometry residents being trained by the optometric staff, and a number of students on rotation from various optometry schools.

Early in the 1970s, the faculty had outgrown its space. In 1976, the second building of the institute opened on new land, the Anne Bates Leach Eye Hospital. The third building in the complex, the Edith and Earl Retter Education Center, was soon added.

Of great importance to Dr. Norton was the library, later named the Mary and Edward Norton Library

## Edward W.D. Norton, MD

of Ophthalmology. He maintained a subscription to nearly all relevant publications in any language. Major textbooks were purchased as they were published. As he traveled the world, Dr. Norton visited stores that carried used medical books and amassed a large collection, which included rare publications from previous centuries, now housed in a secure rare book room. The library was intended to be a resource for the entire community, including optometrists.

Dr. Norton himself became prominent in national and international professional activities and organizations. In the United States he had impact on the American Academy of Ophthalmology, the American Board of Ophthalmology, and the American Ophthalmological Society. Each organization called on him for help, as did the emerging National Eye Institute. Norton's character, intelligence, selfless dedication, superb insight, negotiating skills, and administrative talent

benefited all these enterprises.

### THE LATER YEARS

One day, while in a reflective and pensive mood, Dr. Norton commented to a small number of us waiting for a meeting to begin, that he and most physicians were so devoted to their profession that they were not attentive enough to their families. He began to take off Mondays to spend with Mary, for lunch, going to a museum, or shopping. Now, their nest began to empty, there was no war, and the Institute was largely under control. Finally, they could spend some unhurried time to be together.

Dr. Norton had always met each new obstacle or challenge in life with equanimity. For perhaps the first time in his life, he was overwhelmed when Mary died suddenly in 1980. His friends and colleagues grieved with him, and it was not too long before he was able to resume his leadership in the profession and at the Institute. And he learned to sail.



Dr. Norton received by Pope John Paul II in 1986.

Dr. Norton retired in 1991 leaving the Institute in the hands of others. In retirement, Norton travelled the world with long-standing friends. He enjoyed time with his children and his grandchildren with greater leisure.

Dr. Norton died in 1994 at the age of 72. Hundreds came to the church for his funeral —colleagues, patients, employees, and admirers from all walks of life. His family generously allowed others to come to say goodbye. An exceptionally strong afternoon thunderstorm, typical of the subtropics in summer, and which Dr. Norton had always loved, also attended the occasion. Its heavy tears delayed the start of the service for over an hour by preventing the casket from being brought into the church from the hearse.

*Author's Note: This biography is based in part on an extensive biography written by John T. Flynn, "The Chief: A Biography of Edward W.D. Norton, MD," 2002. The book title reflects the fact that to younger colleagues, calling him "Ed" seemed too familiar. Calling him "Dr. Norton" seemed too formal and distant, so he was addressed by many as "Chief."*

*Editor's Note: We are grateful to our History of Ophthalmology editor, Daniel M. Albert, MD, MS, and his editorial assistant, Ms. Jane Shull, who contributed to the editing of this article.*



1983: "Sorry... Dr. Norton is in Consultation [his boat], and unable to come to the phone just now."



# Planning for and Succeeding in Retirement

By John R. Stechschulte, MD

In 2018, former *Scope* editor, Dr. M. Bruce Shields began sharing some of the activities of fellow retired ophthalmologists. His stories of many distinguished colleagues have inspired many of our readers.

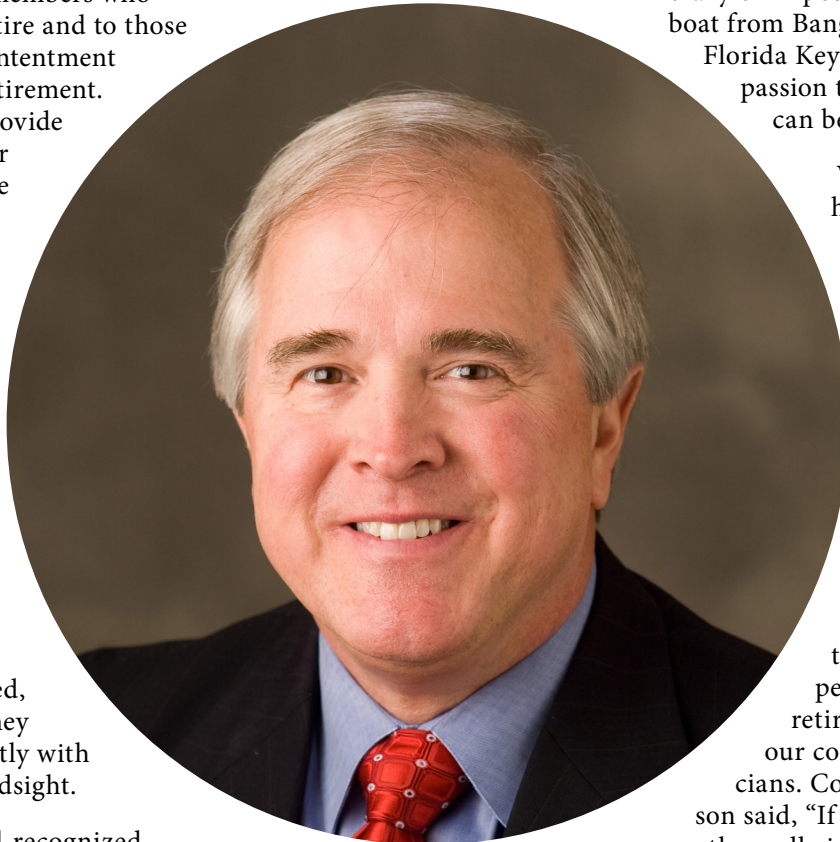
We think that the Academy and *Scope* could be of additional assistance to our members who are planning to retire and to those seeking greater contentment and joy in their retirement. This article will provide the background for what could become an ongoing series of interviews with retired ophthalmologists.

We will ask ophthalmologists to tell their stories of when and why they retired; what they retired to accomplish, what has brought them fulfillment, how have they fared, and what would they have done differently with the wisdom of hindsight.

Three of the well-recognized, key components of retirement include family/social network, physical health, and financial planning. Retirement coaches advise doctors to begin discussing retirement with their spouses at least five or ten years in advance of this transition. You should resist the urge to precipitously move south from your hometown. You probably want to maintain the deep long-lasting friendships that become even more important after your children move away.

Maintaining your optimal personal health is very pos-

sible despite increasing years; a surprising trend of improvement in health after retirement is being reported. Nearly every retirement guide (unfortunately) dwells almost exclusively on financial planning. Attaining financial independence is reassuring but retiring a millionaire



John R. Stechschulte, MD

does not guarantee happiness in what some life coaches describe as the “third” leg of your life.

There is a final component, the fourth leg of the retirement chair. It is the most neglected aspect of planning and may be the hardest to construct and maintain. For now, let us call it fulfillment. This consists of our goals, aspirations, interests, hobbies, recreations, and dreams.

A frequent goal for many is lifelong learning, so more retirees are now auditing college courses. Many aspire to give back to others by finding an impactful volunteer job. Numerous ophthalmologists are interested in writing their first novel or learning to play a musical instrument. Hobbies and recreation may be childhood interests or represent new opportunities that were not possible while practicing medicine. It even helps to have a moonshot. That is an idea that your friends will say is crazy or impossible, like sailing a boat from Bangor, Maine to the Florida Keys. However, your passion to attain that goal can be invigorating.

We need tools to help us build this fourth, and less understood, leg of retirement.

These tools or resources may be found in books, guides, TED talks, courses, advisors/coaches, or adventures.

In coming *Scope* editions, we will try to reveal some pearls to success in retired life specific for our community of physicians. Columnist Doug Larson said, “If people concentrated on the really important things in life, there’d be a shortage of fishing poles.” Even the process of planning for our next “career” has been shown to reduce stress in our existing jobs. Once retired, people should regularly reassess their satisfaction and seek ways to find greater fulfillment.

Although he is not retired, I asked Dr. Alfredo Sadun, the incoming editor of *Scope*, to comment on preparing for retirement. I’ve also asked him to answer this question: Have you found resources (non-financial) that have helped you retire or plan to retire? If so,



## John R. Stechschulte, MD

then please describe this resource that could help other physicians.

### FROM ALFREDO SADUN, MD, PHD

I am certainly no expert on the first three tiers (family/health/finances) of Dr. Stechschulte's retirement concept and, as John said, I'm not retired yet. But I see the beginning of retirement much like the launching of one's first career.

In this, I have some indirect experience. For three decades, I was the residency director of a

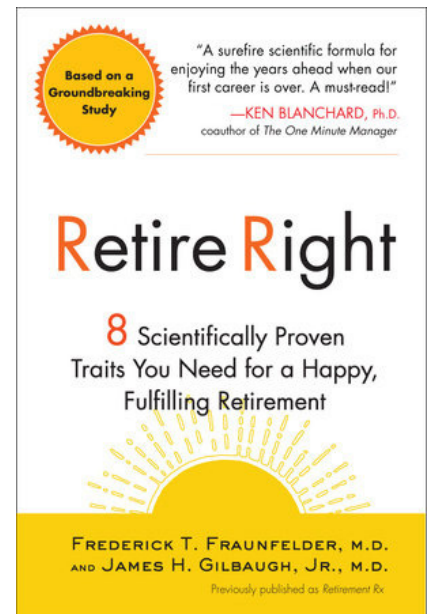
dents on thinking about planning a career with a purpose that we hoped would lead to their long-term fulfillment and contentment.

The conversation often began with the resident thanking me and other faculty for our teaching and emphasizing that it has empowered them to a privileged level. Although I am not known for religiosity, I often quoted Luke 12:48: "Onto whom much is given, much is required." This applies for two reasons. Firstly, we should feel obligated not to pass it back, but to pass it forward. And secondly, this desire to serve should propel young ophthalmologists throughout their careers.

Yes, they also should craft career plans with regards to the first three tiers (family/health/finances), but if they were to neglect the fourth, fulfillment, they might suffer from discontentment by their lack of purpose. I had seen that and, noted ironically that the dispirited ophthalmologist also put the first three tiers into jeopardy.

So how do you plan for retirement seeking fulfillment? I enjoyed reading (and hereby recommend) a friend's book. Dr. Fritz Fraunfelder was the chairman of ophthalmology at Casey Eye Institute at Oregon Health Services University for decades and in 2009 wrote "Retire Right." He and his physician co-author emphasized the necessity for having a sense of purpose in retirement and presented several scientific and controlled outcome measures that corroborated the importance of having a purpose for success and happiness in post-retirement life.

I have also watched several of my role models as they handled retirement. These are colleagues who led very distinguished careers as ophthalmologists or scientists, who went on to retirements that were also successful, probably because they applied themselves in similar fashion — with purpose, and in doing so, achieved fulfillment. Their post-retirement purposes were often different from those they



used when running large clinical, research or teaching programs. But their lives demonstrated purpose and fulfillment as they remained fixed on the North Star of service.

I recommend the same tactic in planning for retirement as I suggest for my residents looking for their first jobs. First, find your passion. Joseph Campbell, the well-known Sarah Lawrence College professor (who inspired George Lucas) would prescribe: "follow your bliss." Then, look about for unmet needs. The overlap in this Venn diagram is where you should plan to dedicate some of your post-retirement time. In my case, I think I can still find fulfillment in pre-retirement. My rocking chair is another resource. From there, I read a lot of books, run lab meetings, facetime with my granddaughter and write. Not as often as I would like, but from my rocking chair I also look out upon the garden and indulge myself in wild thought experiments. That's just me.

We seek your assistance in continuing this discussion by responding to these questions: Would you like the Academy to make more resources (non-financial) available that may help you in your retirement? Have you found resources that have helped you in retirement? Let us know by writing to [scope@aao.org](mailto:scope@aao.org).

---

*First, find your passion. Joseph Campbell, the well-known Sarah Lawrence College professor (who inspired George Lucas) would prescribe: "follow your bliss." Then, look about for unmet needs. The overlap in this Venn diagram is where you should plan to dedicate some of your post-retirement time.*

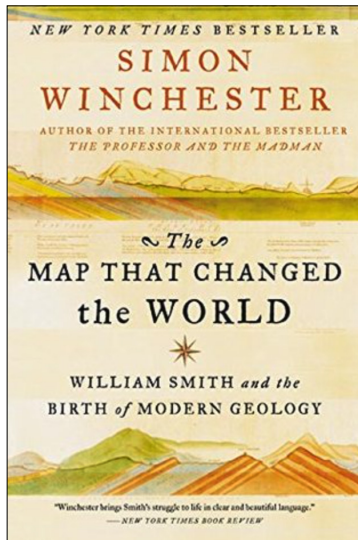
---

large program, and in this capacity, met with and advised several hundred residents on their plans for starting a career in ophthalmology. Issues, such as overarching goals, were discussed. This includes John's fourth tier — fulfillment. I think I learned to approach resi-

# What We're Reading This Spring 2021

Book Review Editor, Thomas S. Harbin, MD, MBA

Senior ophthalmologists share the best of what they're reading this Spring. Share what you're reading and send your review to [scope@aao.org](mailto:scope@aao.org).



***The Map That Changed the World: William Smith and the Birth of Modern Geology***  
By Simon Winchester  
Reviewed by Alfredo A. Sadun, MD, PhD

In this edition of *Scope*, you will read about Dr. Tibolt's avocation of mapmaking. I was immediately drawn to his work having previously read Winchester's remarkable story of W. Smith.



The 3D map

Smith was an unpretentious, non-academic whose map of England showed data, but more importantly, perspective, on our planet, its geological processes, its time scale and even inklings on biological evolution five decades before Charles Darwin.

Winchester, a remarkably lucid writer, begins with the excellent biography of William "Strata" Smith. Smith's education ended at age 11, but he taught himself as an apprentice to be a surveyor. His job involved overseeing the digging of a canal for the newly lucrative business of finding and transporting coal. This was a quarter-century after the discovery of the steam engine and the unearthing in England of vast amounts of the original black gold: coal.

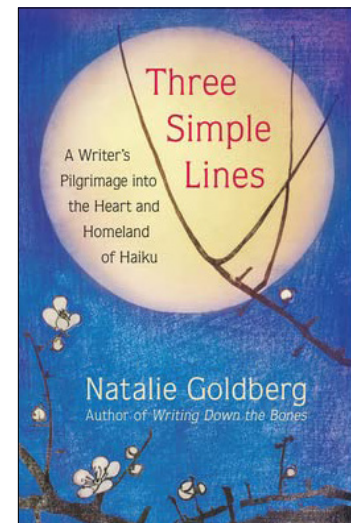
Finding, extracting, and moving coal became the basis of the industrial revolution and prompted great economic growth in England. In 1793, at the age of about 23, Smith had the epiphany that there existed geological strata. Smith figured this out from his hobby of fossil collecting. He transformed his house into a fossil museum and kept himself in debt by buying larger houses to accommodate his growing collections. But this allowed him to recognize that there were patterns of animal and plant fossils which lay in specific layers of rocks. Intriguingly, these layers did not parallel the surface.

Smith began analyzing this locally, then across England. He envisioned, for the first time, a 3-D map of the world. He charted the unknown underside of the earth which initially allowed for the discovery of new coal veins. Then, more importantly, he revealed the truth of the ancient processes of geology. The earth was old. That challenged the bible and opened space in many sciences. Crossing England from

east to west meant traveling backwards, thousands of years of geological time for every yard.

Smith spent over 20 years creating an amazing hand-painted map. Personally, it caused him no end of troubles. He was initially not understood and ultimately vilified by jealous contemporaries and academics. He was rejected by the scientific establishment and went to debtors' prison. But the map survived and changed the way we saw the world. It now rests in the lobby of the Geological Society, ironic as Smith himself was denied entry.

As Dr. Tibolt's story retells, maps are effective ways to convey a lot of facts through images, but they are also a means of seeing things a different way. They are portals to national interests, cultures and the planet itself. Winchester made these points brilliantly.



***Three Simple Lines: A Writer's Pilgrimage into the Heart and Homeland of Haiku***  
By Natalie Goldberg  
Reviewed by J. Kemper Campbell, MD

Natalie Goldberg's brief book, "Three Simple Lines," is a wonderful introduction to the haiku.

A septuagenarian, Goldberg's life has been seasoned by a bout of cancer and her longtime study of Zen philosophy. She teaches creative



## What We're Reading

writing and has now published her 15th book. This one unfolds like a haiku, simply and succinctly with unexpected subtlety.

Each haiku is a three-line, unrhymed poem consisting of 17 syllables. Haiku entered the Japanese culture in the 17th century and later became popular in all languages. Goldberg was introduced to its four classic practitioners by the American Beat poet Allen Ginsberg. Her book is a tribute to the four Japanese poets, Basho, Busan, Issa, and Shiki, who originated the form as well as a travelogue of her visits to Japan and a personal memoir.

The book succeeds in all three areas. The history of haiku's development is fascinating. Her descriptions of modern Japan will transport readers across the sea and her memoir will remind readers that classifications by age, gender, religious affiliation, sexual orientation, and race dissolve within the world of haiku.

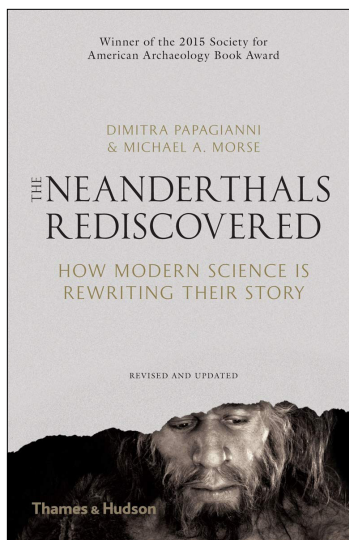
Although in English the haiku traditionally consists of a 5-7-5 division of syllables, translations of the Japanese poets seldom adhere to this pattern. Multiple examples show that a pure haiku should involve a commonplace subject, often rooted in nature, which should result, according to Ginsberg in the mind experiencing "a small sensation of space which is nothing less than God".

Goldberg uses multiple translations of Basho's iconic haiku to illustrate this point:

At the ancient pond  
a frog plunges into  
the sound of water

Finally, the book should inspire any reader to compose his or her own haiku such as the reviewer's example:

Howling winds drift snow  
Coffee cools as pages turn  
Dogs and tulips dream



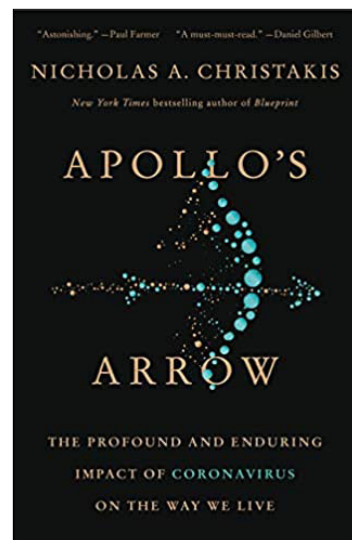
### ***Neanderthals Rediscovered: How Modern Science is Rewriting Their Story***

By Dimitra Papagianni  
and Michael Morse  
Reviewed by Thomas  
S. Harbin, MD, MBA

Most of us know by now that we all carry Neanderthal genes, and I suspect most of us conjure up the stereotypical image of a Neanderthal as a highly muscled caveman with a brutish skull and very limited capabilities.

This book will change your mind. Neanderthals buried their dead, cared for their sick, hunted large animals and had some degree of a spoken language. They had many more abilities including the use of fire, clothing, and medicinal plants, to name just a few. The authors provide up-to-date archeological details and a complete chronology of these closest of our hominid cousins comparing them to species such as *Homo erectus* and *H. heidelbergensis*. They, like us modern humans, evolved over many thousands of years and spread into Asia and Siberia. Modern humans may have caused their ultimate extinction, and we get all the evidence and thinking in this book.

If you want a good discussion of this subject and an overview of human evolution, this is the book for you.



### ***Apollo's Arrow: The Profound and Enduring Impact of Coronavirus on the Way We Live***

By Nicholas A. Christakis  
Reviewed by John  
Stechschulte, MD

Written between March and August 2020, Nicholas A. Christakis describes the known and unknown elements of the COVID-19 pandemic. As a physician and sociologist, he presents the biological, clinical, epidemiological, social, economic and political impacts and the likely long-term outcomes of this plague.

Christakis writes about the pandemic in such detail that this book could later serve as a compelling textbook for medical students to understand this plague and how it compared to those going back a few thousand years.

With his careful analysis and use of modern research, the reader is left with hope that we will recover over the next couple of years or sooner, as he anticipated, thanks to the rapid development of vaccines. He was expecting powerful vaccines because "the biology of the coronavirus is less daunting than even that of the common flu."

This book chronicles the circulation of the coronavirus in China during December 2019, the stroke of luck that led to the diagnosis of America's "patient zero" in Snohomish, Wash. and



## What We're Reading

how Christakis's personal contact with his Chinese colleagues on Jan. 24, 2020 led him to redirect his research and studies.

The author states that this coronavirus is a moderately contagious and a moderately lethal virus which is spread by asymptomatic patients

---

*I found the book's genetic description of this virus fascinating. Only 29,903 letters long, the SARS-CoV-2 virus is 96.2% identical to a bat coronavirus found years ago in China.*

---

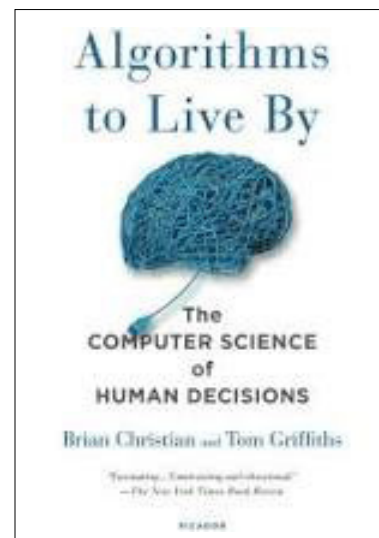
making very early and drastic shutdowns crucial for significant reduction in worldwide deaths. Surprisingly, due to unrecognized early spread of this virus, halting international flights has had little or no impact on the pandemic. He

does demonstrate the importance of widespread accurate viral testing which must be paired with intense contact tracing. Both efforts have been difficult to accomplish in the U.S. due to longstanding inadequate support for public health.

I found the book's genetic description of this virus fascinating. Only 29,903 letters long, the SARS-CoV-2 virus is 96.2% identical to a bat coronavirus found years ago in China. The author says this "confirms" that SARS-CoV-2 originated in bats. By mapping the virus genome, it was determined that this virus undergoes a tiny mutation about every two weeks on average. Knowing this rate and the genomes found in specific U.S. cities, virologists were able to trace the timing and path of infections.

Surprisingly, the large outbreak in a Seattle nursing home and patient zero's infection did not spawn other new variants or infect other individuals. Rather a later importation was to blame for the Washington outbreaks, and importation from Italy led to most of the outbreaks in New York. This book covered many of the social, economic, and political aspects of COVID-19. Not surprisingly, these aspects resemble the problems that were encountered in many past plagues. Christakis ends the book describing the hope we all have

that the world will handle the next pandemic (no matter how soon that could arrive) with greater preparedness, and less fear and denial.



### ***Algorithms to Live By: The Computer Science of Human Decisions***

By Brian Christian and Tom Griffiths

Reviewed by Alfredo A. Sadun, MD, PhD

I loved this book. They had me by chapter 3 (sorting) when I read that most filing systems invest too much effort into the filing.

Neatness and many forms of over sorting are not optimal. Insofar as the last item filed has the greatest likelihood of being needed in the future, stacking things as, "Last in" equals "First out" make sense. And for me, that means legitimizing the vertical stack of papers on my desk where the top is the most likely place to find what I need next.

It was delightful to appreciate that a messy garage is a formal algorithm for filing, and that we are always making and using other types of algorithms in daily living. When do you take the next parking space or stop looking for a new apartment (stopping strategy originally formulated on finding a spouse)? When do you invest in exploration and when do you exploit your knowledge

## PODCAST SERIES

### ***The Rewatchables***

[www.theringer.com/21445741/the-rewatchables-podcast-complete-episode-archive](http://www.theringer.com/21445741/the-rewatchables-podcast-complete-episode-archive)

Reviewed by John R. Stechschulte, MD

Dr. Masket recently recommended this podcast to me. He is a movie buff, I would say an expert, and seriously enjoys the great classic movies, like *The Godfather*. Most of us watch movies a second time and maybe many of us watch some movies over and over. Who has not used a quote more than once from their favorite movie? "I'm going to make him an offer he can't refuse." The Rewatchables podcast began in 2015, when Bill Simmons and Chris Ryan produced the first of what is now over 150 episodes. The Ringer staff "remember, celebrate and meticulously dissect the movies that we just can't stop watching." Visit the website to search for your favorite movie, then listen to learn more about what makes great movies so enjoyable.

## What We're Reading

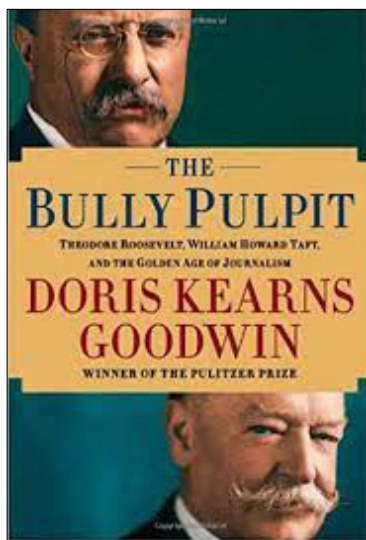
(such as trying new restaurants or revisiting the tried and true)? How should you schedule priorities (Easy things first? Important things? Urgent things? A sampling of all?). How can using randomness improve the outcome of calculations? These things can be mathematically expressed.

However, no formal training in mathematics is required to understand the authors' lucid thinking. They employ simple terms and use examples of common human behavior as well as addressing new technologies and methodologies.

They did a brilliant job discussing one of my favorite concepts that I think is necessary to evaluate a patient's lab tests. It is true that they justified the approach by evoking La Place's Law and Bayes' Rule, but their take-home message of considering the pretest probability is crucial for all physicians.

These mathematical tools give us a lot of power to predict the future and to utilize and analyze the right tests. I wish more physicians understood this and the concept of why NOT getting a test (such as an MRI or a mammogram) is smarter when the suspicion for disease is low. I learned a lot about the limits of analysis with or without computers when considering the concept of overfitting. No wonder big data can mislead. I'm now going to use relaxation strategies in a lot of my thinking. You will be astounded by the shortcuts and heuristics in thinking strategies that this book allows. Or you will be astounded by the common errors in analysis that we commonly accept.

Having heard this on audible, I bought the paperback and have often gone back and referred to the effective simple graphs. In short, the book was about optimizing strategies, and I will require it as reading for those doing doctoral work in my lab.



***The Bully Pulpit: Theodore Roosevelt, William Howard Taft and the Golden Age of Journalism***  
By Doris Kearns Goodwin  
Reviewed by Samuel Masket, MD

Doris Kearns Goodwin provides us with a most unusual and intense biography in that it encompasses much of the life of two rather than one U.S. presidents, both significant American historical figures.

Among the remarkable facets of both of their lives is the power, intelligence, and level of education of the women in their backgrounds who, to my sense, afforded both great developmental advantage.

We come to learn much about social, economic, and cultural reform in the U.S. under Theodore Roosevelt's leadership, stimulated initially by his friendship with Jacob Riis during Roosevelt's time in New York and brought to light by other journalists, led by Ida Tarbell, who led a movement that came to be known as the Muckrakers; among other things they helped shed negative light on the ultra-wealthy "robber barons" of the day.

We also become witness to great personal tragedy with Roosevelt experiencing the deaths of his mother and wife on the very same day. William Howard Taft too suffered personal tragedy as his beloved wife Nellie suffered a

serious stroke in the early months of his presidency and would not fully recover her faculties.

But truly the main thrust of the book is the relationship between these two men who would both become president. As the senior of the two, Roosevelt groomed Taft to succeed him, asked much of him and occasionally disappointed him with undesirable appointments. But Taft was dutiful and accepted his fate.

Eventually he was Roosevelt's choice as successor in 1908 when Roosevelt declined to run, having already served seven years, the first three when President McKinley was assassinated, and then elected to a four-year term in 1904. Upon leaving office in 1908, Roosevelt was arguably the most

---

*Among the remarkable facets of both of their lives is the power, intelligence, and level of education of the women in their backgrounds*

---

popular president in history and quite likely could have remained so. However, he sorely missed the "bully pulpit" and returned from adventures abroad to challenge Taft's reelection bid in 1912.

Roosevelt, driven by ego, heavily denigrated his former friend and protege, split the Republican ticket as he formed the Bull Moose Party, and assured the election of Democrat Woodrow Wilson, altering the course of history.

The book is by necessity voluminous, as Kearns Goodwin's research is impeccable and beyond comprehensive. There is so much to be learned.



## News from the Foundation

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

**W**ith COVID-19 vaccines moving along at a steady pace, I am hopeful for a steady recovery all around the world. We have got exciting things planned for the upcoming year!

### MARK YOUR CALENDAR FOR THE ORBITAL GALA DURING AAO 2021

The Orbital Gala continues in its 18th year in New Orleans on Sunday, Nov. 14, chaired by Dr. Ron and Wendy Pelton. Join us at the famous House of Blues in the French Quarter for a cocktail party and bidding on one-of-a-kind auction treasures to support vital Academy programs. For those who cannot join in person, the gala will be accessible to you online.

This year, we are thrilled to celebrate David J. Noonan, former Academy deputy executive vice president. To make a tribute gift and have your message included in the Orbital Gala booklet, please contact John Waldman at 415.447.0386 or [jwaldman@aao.org](mailto:jwaldman@aao.org).

You may purchase tickets after June 17 at [aao.org/foundation](https://aao.org/foundation).

### HONOR A MENTOR

We are pleased to introduce a new initiative to our members to raise funds for Academy programs. Starting in June, Honor a Mentor will allow you to recognize a trusted adviser or teacher by giving a gift in his or her name that allows crucial Academy programs to grow and flourish. A mentor should be a member in good standing within the ophthalmic community, or a member of an ophthalmologist's family. They may be living or deceased. <https://www.aao.org/honor-a-mentor>



Former Academy deputy executive vice president, David J. Noonan will be honored at the 2021 Orbital Gala.

If you would like to honor a mentor, contact Todd Lyckberg at +1 415.447.0361 or [tlyckberg@aao.org](mailto:tlyckberg@aao.org).

### MAKE A GIFT TO YOUR PROFESSION

The Academy Foundation offers a variety of opportunities and ways to give, from named gifts and pledges to legacy gifts and Donor Advised Funds. From the ONE® (Ophthalmic News and Education) Network, IRIS® (Intelligent Research in Sight) Registry research and risk-management studies to Minority Ophthalmology Mentoring, EyeCare America® or Global Outreach, there is a program that needs your help. Consider a gift. <https://secure.aao.org/aao/foundation-donate>

As always, thank you for your support of the Academy's many innovative products and programs. I wish you all the best as we look forward to AAO 2021, this year's Orbital Gala and the introduction of the Honor a Mentor program! Feel free to contact me any time at [gskuta@aao.org](mailto:gskuta@aao.org).

## SCOPE

The Senior Ophthalmologist Newsletter

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

### Scope Editorial Board

#### Editor Emeritus

M. Bruce Shields, MD

#### Editor

Alfredo A. Sadun, MD, PhD

#### Associate Editor

Thomas S. Harbin, MD, MBA

#### History of Ophthalmology Editor

Daniel M. Albert, MD, MS

#### Assistant Editor

Neeshah Azam

#### Design

Jim Frew

#### Communications

Psyche Pascual

#### 2021 Senior Ophthalmologist Committee

Samuel Masket, MD, Chair

Laurie Gray Barber, MD

Marcia D. Carney, MD

Marguerite B. McDonald, MD

Aaron M. Miller, MD, MBA

Secretary for Member Services

Stephen A. Obstbaum, MD

Jean E. Ramsey, MD, MPH

Alfredo A. Sadun, MD, PhD

John R. Stechschulte, MD

#### Academy Staff

Neeshah Azam

Gail Schmidt



AMERICAN ACADEMY  
OF OPHTHALMOLOGY®  
Protecting Sight. Empowering Lives.

P.O. Box 7424  
San Francisco, CA  
94120-7424

T: +1 415.561.8500  
[aao.org/senior-ophthalmologists](https://aao.org/senior-ophthalmologists)