Veterans Remember: The Great Ophthalmological War and the Rise of the ASCRS

The paradigm shift that shook cataract and refractive surgery.

BY JAMES J. INCOLLINGO, CONTRIBUTING EDITOR

Many readers will recall the 1960s and 1970s as a time of wars and rebellion. Generations clashed, people protested, and there were conflicts and crackdowns. The fabric of American society was awash in turmoil—and the society of ophthalmologists was no different. Their conflict led to a paradigm shift throughout ophthalmology and to the birth of the American Intra-Ocular Implant Society (AIOIS)/American Society of Cataract and Refractive Surgeons (ASCRS).

Pressure had been building since the 1940s, when Sir Harold Ridley noticed that the shards of cockpit Plexiglas—poly(methyl methacrylate)—that he found in the eyes of wounded combat pilots did not cause infection. This observation led him to posit that an artificial lens of the same material might prove therapeutic for cataract patients. José Barraquer, MD, upped the ante in the 1950s by developing technologies and techniques to treat the "disease" of refractive error, instead of settling for "prosthetic" eyeglasses or contact lenses. By 1967, when Charles Kelman, MD, found the temerity to fire ultrasonic waves at a cataractous lens in order to dissolve and aspirate it, adversaries were choosing sides and bracing for trench warfare. When the young ophthalmologist Kenneth J. Hoffer, MD, finished his residency in 1972, he stepped out of St. John's Hospital in Santa Monica, California, and onto a raging battlefield.

(Courtesy of Kenneth J. Hoffer, MD.)

Figure 1. The first three presidents of the AIOIS worked together at the 1975 SAB meeting (from left to right: Robert Drews, MD [1977 to 1979], Norman Jaffe, MD [1975 to 1977], and Kenneth Hoffer, MD [1974 to 1975]).

Of course, no actual bullets were fired, no bombs exploded, and nobody was killed. Nevertheless, the Great Ophthalmological War was not without suffering and loss. Careers were jeopardized, researchers silenced,

innovators humiliated, and untold numbers of patients denied timely access to groundbreaking new treatments. As in the aftermath of any war, the survivors may rightly ask, why?

PARADIGM CHANGES AND CONTROVERSY

It is axiomatic now, in the words of Lee T. Nordan, MD, that "any paradigm altering technique is certain to create an enormous amount of controversy," and in the early 1970s, the venerated paradigm in ophthalmology was undergoing serious alteration. For most of the history of the profession, ophthalmologists had devoted themselves to removing foreign matter from distressed eyes. IOLs, phacoemulsification, and refractive surgery in general involve quite a bit of foreign body insertion. For many surgeons, accepting such a philosophical about-face was simply impossible. According to Dr. Hoffer, who spoke to *Cataract & Refractive Surgery Today*, the old guard "really did believe that [the IOL] was some Mickey Mouse crap that was going to ... lead to nothing but disaster and blindness, so they were hostile to the people who were doing this."

> "The irony was that we started when if you tried something new, you were roundly criticized by academia. *Innovation* was not a word that people went around bragging about. ... Today, almost every ophthalmologist likes to fancy himself an innovator."
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> *– Manus C. Kraff, MD*

This hostility was exacerbated by the prevailing assumption that research and development happened in academic settings, not in doctors' offices. Manus C. Kraff, MD, AIOIS/ASCRS president from 1983 to 1985, characterized the situation then as "if it wasn't university approved, it didn't get the 'Good Housekeeping' stamp of approval." IOLs and phacoemulsification were not developed at a university. They came out of private practice and "were going along on parallel courses without being accepted by mainstream ophthalmology, because they were so very new, very innovative, and were totally not controlled by academia."

Nevertheless, the opposition's overt and often repeated concern for the health of patients was legitimate,

(Courtesy of Kenneth J. Hoffer, MD.)

Figure 2. In 1979, Norman Jaffe, MD (left), and Kenneth Hoffer, MD (right), presented an album to Sir Harold Ridley (center) in celebration of the 30th anniversary of his first lens implantation.

even noble. "It was felt that putting an implant in the eye was like a time bomb, and eventually the eyes would go bad," recalls IOL pioneer and former AIOS President (1975-1977) Norman S. Jaffe, MD. The basis for this rationale "came from the experience in Europe in the 1950s and 1960s," he told *CRSToday*. "The implants were poorly designed, the edges of the implants were not polished well, and most of the surgeons in Europe stopped doing implants in the '50s and '60s. When we started doing them (I did my first ones in 1967), there was a great deal of criticism that we would meet the same results as the great surgeons of Europe."

Not surprisingly, less noble motives were also at play. Many ophthalmologists, having devoted years to honing their skills in the older techniques, feared that, according to Dr. Jaffe, "this might be an economic opposition to their earning a living, if others did IOLs while they were still doing the old-fashioned cataract surgery."

RESISTANCE FROM INSTITUTIONS, THE ESTABLISHMENT

Beyond the misgivings of individual critics, there was concerted resistance from the great institutions of eye care—the universities, teaching hospitals, and most importantly, the American Academy of Ophthalmology (AAO). Nearing its 80th year as the flagship organization for ophthalmologists across the United States, by the early 1970s, the AAO had ossified somewhat. The leadership comprised senior eye doctors who had taken their training decades earlier and who were rooted in

> "Just about anybody could talk on anything. And if it was really offensive [nonsense], the audience was smart enough to know it, and basically threw 'em off the stage."
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> *– Kenneth Hoffer, MD, on the atmosphere at AIOIS meetings*

the conservative paradigm of the times. To them, upstarts with dangerous ideas were to be squelched, lest their patients and their beloved profession suffer. One of the more prominent squelchers was Professor Paul Henkind of Montefiore Hospital in New York. As editor of the AAO's journal, he wrote several highly critical and influential anti-IOL editorials.

The tension between the wisdom of age and the inspiration of youth is archetypal, but the rancor that accompanied it then stands out as particularly bitter. Dr. Kraff remembers that "organized ophthalmology really was very, very critical" of the people doing clinical research on IOLs. "The early pioneers of IOL implantation and surgery could not publish in any of the peer-reviewed journals and could get on the scientific program at very, very few of the major meetings, including the AAO."

When these pioneers managed to present findings to their peers, the results were often unpleasant and disheartening. After his talk in front of the New England Ophthalmological Society in 1970, Dr. Jaffe recalled, "Some of my very close colleagues came to me and suggested that I must have lost my mind, implanting a plastic material inside an eye and expecting it to last a lifetime." The mood among ophthalmologists internationally was no better. At a symposium in Bogotá, Columbia, Dr. Jaffe endured pointed criticism from Spanish doctor Joachin Barraquer (brother of José), who was quickly seconded by the well-known Belgian surgeon, Jules François, MD. Immediately afterward, Dr. Jaffe said, "the audience broke into wild applause. I was embarrassed, and I was humiliated."

Dr. Hoffer remembers when detractors "went out of their way to publicly humiliate doctors who were doing phaco and IOLs. I remember Richard Troutman, MD, the famous corneal surgeon from New York, called them *intraocular time bombs*, and that phrase went around the world. It was out-and-out warfare to get rid of these IOLs and basically shut up people who were attempting to push this thing."

WHAT WAS MOTIVATING THE PARADIGM SHIFT?

Why were they trying to "push this thing?" Dr. Hoffer's inspiration started toward the end of his time in medical school, during a lazy boat ride on Lake George. As he leafed through an issue of *The British Journal of Ophthalmology*, he came across British ophthalmologist John Pearce's 1971 study of the patients of Dutch doctor Cornelius Binkhorst. In Holland, Dr. Binkhorst had continued his clinical exploration of IOLs after most European doctors had abandoned them. Moreover, he did so publicly, inviting scrutiny by colleagues around the world. Dr. Pearce took advantage of Dr. Binkhorst's openness and conducted an exhaustive study of his IOL patients. Dr. Hoffer was particularly taken with the conclusion that Pearce, a dispassionate, non-Dutch investigator, derived: Dr. Binkhorst's patients were doing remarkably well. "That's really something," Dr. Hoffer thought. "The light bulb went off on IOLs for me, reading that paper."

By the time the light shone on Dr. Hoffer, Dr. Jaffe had been in practice for almost 2 decades. His attraction to IOLs was born of direct experience with the older techniques of cataract surgery and the horrible outcomes they commonly produced. Without implantable lenses to replace the cloudy ones that were removed, patients were fitted with extremely thick spectacles that had a magnification of 25% to 30%. In addition to their disturbing appearance, Dr. Jaffe observed that patients "were worse off after cataract surgery with that technique than they were before the operation was done. These patients could hardly walk down steps. They couldn't put a key in a lock. They poured coffee in front of a cup." He continued, "Because everything was so magnified, it appeared closer to them. They had very poor peripheral vision, and these patients were, many times, severely handicapped." The only alternative was to fit them with contact lenses. For many elderly patients, who made up the bulk of cataract sufferers, however, the daily maintenance required for contact lenses was simply too difficult. "When the idea of implants came along," Dr. Jaffe said, he "jumped on the bandwagon very quickly and recognized that this might be the solution for these patients."

The advocates of change were bursting with enthusiasm for what they saw as a powerful new approach to healing eyes and restoring vision. At the same time, mainstream ophthalmology and its venerable institutions were trying to bottle them up. With the pressure building, something had to give. As it happened, the unlikely trigger was a mother's love and premature death.

LOVE AND LOSS

Back in Santa Monica, California, in the spring of 1974, Dr. Hoffer was preparing to implant his first IOL. He had researched the techniques, taken an IOL course taught by Henry Hirschman, MD, in Long Beach (the first such ever given), and secured approval from his partners in practice. Just then, his mother died suddenly. Mary Elizabeth Hoffer was a professional beautician. She was planning that day to take Dr. Hoffer's young son, Kevin, for his first haircut, but she did not make it.

When Dr. Hoffer got the call, he was devastated. After his mother and father's divorce when Dr. Hoffer was 3 years old, Mary was his sole parent and provider. She had warned him against going to medical school, because she was fearful of the pain he would endure if he failed at such a daunting task. Although he ultimately defied her, no one was more proud when he came home with his degree in hand. "This woman had thought, people of our kind just aren't able to do those things, and here her son was a medical doctor, Dr. Hoffer said. "She was just beaming."

Perhaps the only fatality related to the Great Ophthalmological War, Mary Hoffer's death was not insignificant. It sent Dr. Hoffer into a paralyzing depression, but within weeks, that depression had turned to gritty resolve. It happened after a visit from his senior partner, who told him "you need to grab yourself by the bootstraps and get your [posterior] back to work." Dr. Hoffer came to a decision. "I was sitting there, and I said to myself, I am going to do something," he recalled. "I am going to make my mother's life more valuable than one might have thought originally. I am going to do some things for her." One of those things was to start a society for IOL surgeons, an organization that would provide "a forum where ophthalmologists could deal with IOLs, could get together, communicate, and present their work, and a journal that would publish good scientific material on IOLs."

BRINGING TOGETHER THE PROPONENTS OF IOLs

The challenge was that even the proponents of IOLs were a disparate bunch. "Some of the IOL surgeons were 'professor' types, like Dr. Jaffe—they were very scientific—and the other types, like Dr. Hirschman, were promoting in the newspapers and doing lots of cases," Dr. Hoffer said. If a member from either camp founded the society, Dr. Hoffer feared the other camp would be reluctant to join. To attract a broadly representative group, he knew, "just right to my core, that this organization had to be started and put together by totally unknown people. The only unknown person I knew was me, so I said, 'I am going to do it.'"

> "How many people in ophthalmology have a chance in their older years to know that they started something that has really been beneficial to all their colleagues, beneficial to millions of patients under the hands of these doctors, and continues to do it today? Not many."
>
> *– Kenneth J. Hoffer, MD*

He called on three associates to form an executive committee, and together they incorporated the AIOIS. Dr. Hoffer then quickly began to assemble the Society's Science Advisory Board (SAB), a group of established, experienced, and well-respected IOL surgeons who would bring the credibility and reputational fortitude needed for the fledgling society to attract members and take flight (Figure 1). He invited them to Dallas for the first AIOIS meeting, and 13 attended.

Unknown, uncomfortable with public speaking, and about to address the senior luminaries in his chosen field, Dr. Hoffer felt less than confident. "This was unbelievable to me—the likes of Drs. Norman Jaffe, Robert Drews, and Henry Hirschman. ... I had to go in and meet them all for the first time," he explained. In a small antechamber just outside the main room, he stood alone with his anxiety and the memory of his mother. "I just got down on my knees and said, 'Just give me the strength to do this.'" Evidently, she did. SAB member Dr. Jaffe remembers Dr. Hoffer as "well-mannered and very persuasive, and he played a very important role."

The SAB approved his logo for the society as well as other start-up business, but he was relieved that none of them read the bylaws closely. He had written them to ensure the SAB "had absolutely no power." His reasons for doing so were not purely selfish: he wanted to guarantee that the society's clear mission would not be muddied. "This was the state of paranoia at the time, remembering the great hostility to IOLs," Dr. Hoffer explained. "You had unknown people trying to put together a national organization, and it would not be too paranoid to think that there might be others that might want to come in and take it over." By "requesting" their approval for the society's initiatives, Dr. Hoffer

ensured that the technically powerless SAB felt more like a powerful board of trustees. With that, the AIOIS had joined the fight.

FIRST PRESIDENT OF THE AIOIS

Dr. Hoffer served as the first president of the AIOIS and was involved in all manner of administrative minutiae. Although this was vital work, his deepest satisfaction came from starting the society's journal. As its first editor in the days before computerized desktop publishing, most evenings, Dr. Hoffer could be found cutting, pasting, and laying out pages, often at a table in a little bar on the coastal road on the way to Malibu. The support of his wife, Marcia, was critical at the time, because the hours were long and the early work thankless. Dr. Hoffer kept at it, driven by the desire that "this journal was someday going to be one of the most important peer-reviewed journals in the world."

He soon realized that his talents lay largely behind the scenes—conceptualizing, strategizing, and editing—and that the presidency of the AIOIS would be better filled by someone with a more established public persona. Dr. Hoffer resigned with a year left in his term and nominated Dr. Jaffe to replace him as president. Dr. Hoffer chose Dr. Jaffe for a variety of reasons, not the least of which was because he "had written the book on cataract surgery." He had also earned grudging respect from IOL opponents when he organized the 1969 to 1971 moratorium on implant surgery in Miami to allow time for a follow-up study by impartial investigators. The executive committee accepted Dr. Jaffe as president and appointed Dr. Hoffer as secretary of the society.

With their foundation stable and their journal taking off, the AIOIS began to confront the intensifying legal onslaught against IOLs. The attacks were not entirely without merit. Some unscrupulous or incompetent IOL manufacturers had been producing poorly designed and defective lenses, and some patients paid the price of blindness. The FDA was itching to regulate IOLs, in part due to Ralph Nader's Public Citizen Health Research Group, which wanted them banned outright. Dr. Jaffe recalled an associate of Nader's accusing him of "committing malpractice and something immoral by placing an IOL in the eye of the patient."

MOVE TO BAN IOLs

The "hit job" on IOLs fell to the California Department of Health. According to Dr. Hoffer, "they were put up to it by the FDA because all of the manufacturers of IOLs were in California." At the time, neither the federal nor state agency had jurisdiction over a doctor's use of any medical device, so California tried to ban the IOL by declaring it to be a drug. While keeping the AIOIS officially out of the fray, Dr. Hoffer helped organize a lawsuit to overturn the ban, with Drs. Henry Hirschman and Mary Kay Michaelis as plaintiffs. Superior Court Judge Harry Huff was not convinced that a small piece of acrylic glass constituted a drug, and he issued a restraining order against the Department of Health.

> "I decided to join the Society because I thought we could disseminate information throughout the US, collect data, and organize a scientific approach to what was a new modality."
>
> *– Norman Jaffe, MD*

The ban on IOLs represented the high water mark in the war against the technology, but after its repeal, the struggle dragged on. "We knew the winds of change were coming," recalled Dr. Hoffer, "and in Washington, there was great pressure for the FDA to now start approving devices." In 1978, the FDA was empowered to approve or deny the use of new medical devices, but IOLs were exempted after a focused lobbying effort. In 1980, complaints by Nader's Public Citizen Health Research Group led to a hearing on IOLs' safety before the FDA. Dr. Jaffe helped arrange the pro-IOL presentation from the ophthalmological perspective. Many doctors testified, but it was a make-believe doctor who stole the show. Actor Robert Young, who played Marcus Welby, MD, on television, told the assembled officials that his career was saved by intraocular implants. After his testimony, the FDA backed off, and IOLs never again faced such an existential threat. Lingering resentments took years more to fade, but the war really ended then (Figure 2).

THE BATTLE WON

His battle won, Dr. Hoffer resigned his posts as secretary and meeting chairman with the AIOIS in 1980. He moved on to new achievements by treating patients, teaching students, and developing new technologies. The executive committee accepted his recommendation to replace him with Dr. Kraff, who went on to the presidency in 1983. Dr. Kraff oversaw the change of the society's name from AIOIS to ASCRS, reflecting its embrace of all forms of refractive surgery, and enhanced its role in continuing medical education. When asked

about the society's greatest accomplishments, Dr. Jaffe noted, "The educational programs—particularly the efforts of Dr. Kraff in Chicago—elevated the society to one of the greatest teaching organizations in all of medicine. It is now a society with thousands of members, and probably one of the great subspecialty societies in the world."

"I don't think there's any doubt," according to Dr. Kraff, "not only that the goals were accomplished, but that they were far surpassed. The society today is extremely viable. It is made up of mainstream ophthalmologists and university ophthalmologists from all over the world. The model that was built, ASCRS, has literally been copied all over the world. So, yes, the idea has been vindicated, and much of the great research has come out because of the society."

Dr. Hoffer put it this way: "Yes, my wildest dreams have been fulfilled. The society is the second largest organization in the United States in the field of ophthalmology. It is well respected, and it is probably the major organization in the world on the subject of cataract and refractive surgery. The *Journal of Cataract and Refractive Surgery* is an extremely respected peer-reviewed journal quoted all over the world. Yes … it's about as big as it can get."

CONCLUSION

The stages of a successful campaign of nonviolent confrontation have been described as "first they ignore you, then they laugh at you, then they fight you, then you win." The underdogs who inspired and composed the AIOS/ASCRS witnessed that process firsthand. Many of their most strident detractors have since admitted their mistakes, and many more have quietly gone on to perform—or undergo—the very procedures they once opposed.

The AAO and the lords of academia have embraced the new ways as well, bestowing honors on and accepting the early innovators. More importantly, at the institutional level, they have accepted the singular value of the free and open exchange of scientific information. An atmosphere of collegial evaluation has replaced the pall of disdainful prejudice.

Looking back, current AAO President Randy Johnston, MD, believes that the fact that "the [AAO] was slow to accept the concept that the IOL maybe was a great advance drove ophthalmologists in search of other organizations that would be more supportive, and that's essentially where ASCRS came from. The [AAO] has taken that lesson to heart. I think people have learned that something that initially sounds fantastic and too good to be true might very well not be—it might be just the next major advance. I think we have learned that, if we do not all hang together, we will certainly hang separately. So we have been trying to make sure that we are all hanging together."

After nearly 2 decades of pitched conflict within the specialty, when peace finally broke out all over the world of ophthalmology, everybody won. According to Dr. Kraff, "The principle that was set is that, today, we look at new things, new ideas, with a much more gentle, kind, and scientific eye than we did 35 years ago." Dr. Hoffer's mom would be proud. ■