ORIGINAL ARTICLE



Patrick J. Saine, M.Ed., CRA

Ophthalmology 4B
Dartmouth Hitchcock Medical Center
Lebanon, New Hampshire 03766
603/650-8350
patrick.j.saine@hitchcock.org

A Conversation With Csaba Mártonyi: A Photographer for All Seasons

et's get this out of the way right now: Csaba L. Mártonyi, CRA, FOPS is one of my heroes. His professionalism and skillful techniques were inspirational early in my career. And I'd wager that he may be one of your
heroes as well. A rite of passage for each ophthalmic photographer is attendance at Csaba's Descriptive
Interpretation of Fluorescein Angiography and Slit Lamp Photography courses at the Annual Educational
Program. And in 1984, he was recognized for "Outstanding Contributions to Ophthalmic Photography" by the
Ophthalmic Photographers' Society. Because of his high level of activity within the Society (he was our first 2 year
President, the first Chair of the Board of Certification, a long term member of the Board of Directors, winner of
many First and Best of Show awards, frequent lecturer, and author of the text on slit lamp photography), he is
often mistaken for a founding member. Csaba, however, did not begin his career in ophthalmic photography until
a year after the Society was founded.

While Csaba Mártonyi has retired from his full-time academic and clinical commitments at the Kellogg Eye Center at the University of Michigan in Ann Arbor, he will continue his involvement in ophthalmic photography in a number of ways. He is writing a new book, producing a new video/CD-ROM program, and will be lecturing and teaching for the foreseeable future.

The following is excerpted from a conversation we shared in the living room of his Ann Arbor home which he shares with his wife, Jean.

How did you become interested in ophthalmic photography?

Serendipity. In 1970, I was working as Chief Photographer at the UM Photographic Services on central campus when Richard A. Lewis, MD (now at the Cullen Eye institute, Baylor College of Medicine) walked through the door and changed my life forever. This moment become a major turning point in my life, second only to Jean saying "yes". Dick and Richard Gutow, a retina specialist in the department, had exhumed an old black Zeiss fundus camera from a back closet and taken some color photos. That, apparently, generated enough excitement to influence the purchase of a new FF II for angiography. Exposing his first angiogram, he needed someone to process and print the results and, right on cue, fate stepped in. According to Dick, when he took the exposed negatives to Medical Photography for processing, he was told they knew nothing about fluorescein angiography and expressed reluctance to undertake the responsibility. He then came to Photographic Services where, he had heard, "they would try anything". And, indeed, we would. We soon established a standard routine and an excellent working relationship.

As one might imagine, fluorescein angiography quickly became an integral part of patient care. The Department of Ophthalmology decided a full time photographer was necessary to handle the burgeoning need. (Dr. Lewis had been serving a special retina fellowship prior to his residency, which was looming on the near horizon.) One day he mentioned he would soon have to give up retinal photography to continue his education in ophthalmology and, should I know of a high school graduate who would be interested in learning eye photography, to let him know. Well, as I had graduated (though, admittedly, not by much) I decided to give him a call that evening. He seemed surprised that the Chief



Figure 1a: The Mártonyi family in 1951, about to embark on the voyage to the New World. Csaba is second from the right.



Figure 1c: Csaba Mártonyi with his wife Jean and daughter Erika Lyn at Hoover Dam. (1983)



Figure 1b: Csaba Mártonyi, Chief Photographer at UM Photographic Services. (1968)

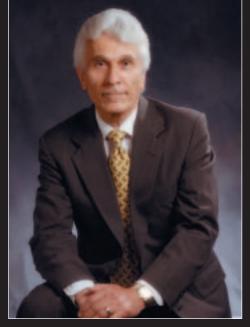


Figure 1e: Csaba today.

Figure 1d: Preparing for a photo assignment aboard the aircraft carrier USS Hornet. (1966)

Photographer at Photographic Services would be interested in such a position. For me, however, it sounded like an exciting challenge and was well timed. Photo Services had lost much of its professional luster during the previous two years and no longer seemed the ideal venue for a progressive career. Within days I was interviewed by the chairman, Dr. John Henderson. We wrangled briefly over a few dollars (very significant in those days), and I became Director of Ophthalmic Photography before I could spell "ophthalmic" without looking it up.

For the next two months, Dr. Lewis and I worked together. He would photograph all the patients and I would watch (Dick always was a very hands-on type). Needless to say, as the day I would be left to my own devices was rapidly approaching, my concern for my lack of practical experience grew exponentially. With little time left, I decided to take over the camera and the patients. I declared that every patient that walked through the door from that moment on was mine. He agreed (perhaps he was waiting for just that tone of decisiveness from me).

I learned a great deal from that consummate and humanitarian professional (and continue to do so). He unwaveringly exuded a keen sense of responsibility to the patient and the task at hand. A more dedicated role model would be difficult to find.

As I look back, I consider myself most fortunate to have been given the opportunities that I have had in my life and career. In fact, if I were to do it all over again, there is very little I would change.

You have an interesting personal history as well (Figure 1). Your family emigrated from Hungary?

Due to the war, we left Hungary in 1945 and subsisted in Germany as displaced persons for the ensuing six years. Then, following rigorous security and health screenings, the United States accepted us for immigration. As was required, my family obtained a sponsor in the US (someone to help initially with housing, employment, school, etc.) and we made the voyage to the new world. I recall that we brought with us our best clothing - only to discard them entirely. What we received from the Salvation Army shortly after our arrival was far better than what we owned. Our ship docked at Ellis Island and we were among the last groups to enter the US through that historic facility. I vividly recall my first glimpse of the Statue of Liberty - majestically rising above the morning mist, aglow in the warm rays of the early morning sun. To this day I remain in awe of that symbol and what it represents. My father's name is inscribed on the History Wall of Ellis Island.

Compared to the present day, what do you miss most of the way you practiced ophthalmic photography 20 to 25 years ago?

I preferred the more personal, less bureaucratic function of our department during those early years. Of course, it was much smaller then and things were simpler. Nevertheless, times must change and, under the skillful and farsighted leadership of Dr. Paul R. Lichter, who has chaired this historic department for the past twenty years, we have grown into a world class eye center. During this time, wonderful, new technology has burgeoned, greatly improving eye care.

Unfortunately, more recent changes have had a negative effect on the fiscal health of the health care industry, creating a markedly different environment. Of necessity, today's photographic procedures must be stratified to specific care needs and this has led to more routine, and less exploratory imaging. I miss the variety of the early days when I performed considerably more slit lamp and in-vivo and in-vitro endothelial cell photography (Figure2). Ophthalmic photography was still, in large part, an investigative process. We did an angiogram on practically everything and learned something new with each patient. We frequently documented findings which had never before been reported. It was a very heady time for ophthalmic photography.

The use of indocyanine green (ICG) angiography certainly broadens the spectrum of procedures but, lamentably, represents a benefit to but a small number of patients. It remains to be seen whether it becomes more widely applicable. Newer technology, such as OCT, should promise a wider horizon; however, I have not had the opportunity to work with such a system.

What is it you most enjoy about your chosen profession?

I think I always have and continue to enjoy the learning process more than anything else; the constant search for new procedures and techniques. Among my greatest and most stimulating challenges was the photo slit lamp. While I learned essentially on my own, it was with the careful notes and suggested forms of illumination on the photo forms from our cornea guru, Roger Meyer, MD, that I was able to find my way initially. His thoughtful input and my curiosity and persistence paid off.

I tremendously enjoy ophthalmic photography overall—including the interaction with patients. Some patients are fascinating—some are just plain fun. Of course, some patients are a tremendous challenge—and the successful completion of the photograph is its own reward. Going just that extra yard can make all the difference in the world.

I recall a patient some years ago who was gravely uncomfortable with a terminal condition. He had arrived on a stretcher and it became quickly apparent that moving him would cause considerable pain. Instead, I unbolted the 60° Canon-S camera head from the base and, with the power cables slung over my shoulder, I held it in a manner that would allow me to look through the eyepiece. I stood on a riser and leaned over the recumbent patient while my associate, Sally Stanley, belayed the cables to keep me from toppling over. Once I was aligned and focused, she fired the shutter on my signal. I

later heard that his family was very grateful for our efforts to prevent him further discomfort in his last days. The photographs, incidentally, turned out very well.

With your background as a traditional photographer, how do you feel about the current transition toward digital imaging?

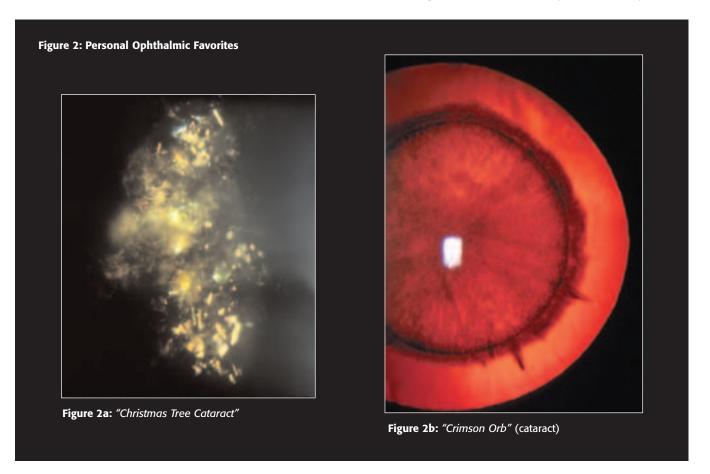
Having grown up with film, it is a natural bias. And, until recently a film angiogram, processed with care, was superior to any digital output. Today, however, with the introduction of Mark Maio's high resolution system, digital angiograms are, for the first time, exceeding the capabilities of film. It is a very exciting advance in our collective goal to produce truly high quality fundus photographs and angiograms with the immediacy of electronic imaging

I have greatly enjoyed ICG angiography with the immediate results that could be shared with the patient. Greater resolution can only improve the usefulness of that procedure as well. There is no question that digital imaging is moving toward direct competition with film in most applications in ophthalmic photography. During my phased retirement, I had the opportunity to work with my successor, Richard Hackel, a veritable master of imaging magic. He introduced me to innumerable possibilities, some of which I have begun to apply to both my ophthalmic and fine art images.

You were the first Chair of the Board of Certification. What changes have you seen? And what changes would you like to see?

During the five years that I chaired the first Board, we laid ambitious plans for a tri-level certification program consisting of Certified Retinal Angiographer, Certified Ophthalmic Photographer, and Certified Master Ophthalmic Photographer. We initiated the CRA program and began testing and certifying at that level. The next Board concentrated on the top level (designated COPRA), reasoning that, once established, it would be simpler to administrate the middle level. However, the COPRA level certified but a handful of individuals and, due to the complexities of NOCA regulations, had to be tabled. Thus, progress on the middle level has languished. But I am hopeful, as current efforts of the BOC include moving in that direction.

Overall, the changes since our first pioneering days have been many and meaningful. The BOC's latest triumph, NOCA certification of the CRA program, is the culmination of a tremendous amount of effort and education in the process of conducting a certification program. While this had always been our goal, its attainment was much more difficult than most could guess. Terry Tomer and his Board, and all the other individuals contributing to the process, are to be congratulated for achieving what, in my opinion, is one of the most important accomplishments in the history of the Society. The



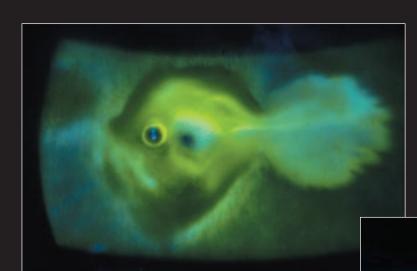


Figure 2c: "Fluorescent Greenfish" (positive Seidel Test in perforating corneal ulcer. Rotated 90° from the original.)



Figure 2e: "Stilt Walker" (pseudo exfoliation of the lens capsule)



Figure 2d: "Crystalline Celestials" (granular dystrophy)

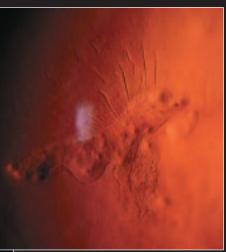


Figure 2f: "Nessie" (fingerprint dystrophy)

Figure 2g: "Soaring" (persistent pupillary membrane)

efforts of Don Wong, who proposed certification at the first meeting of the fledgling Society, have come full circle.

Is there a place in today's medical climate for professionals who specialize only in ophthalmic photography as opposed to those who have both technical and photography responsibilities?

Yes, but those positions are generally unique to larger departments and are relatively few in number. Even those are changing in the face of onrushing technology. Today's photographer must still be well versed in traditional photographic principles, but must also exhibit fluency in the new, digital milieu. We are at a time when the rules are changing ever more rapidly and the top players must be open minded and nimble in their response to those trends. Those aspiring to head major photographic units must be conversant in both languages.

Would you share your thoughts on the education of ophthalmic photographers?

Actually, I am quite opinionated on that subject. I believe that excellent opportunities in continuing education exist for practicing photographers, but many take marginal advantage of what is available. Additionally, many photographers are not sufficiently encouraged to keep learning. In today's economic climate, funding for attendance of educational courses is limited — in some practices it is nonexistent. Photographers who wish to improve must take it upon themselves to further their education. There are now many more options than existed before.

We should be well educated in the fundamentals of ophthalmic anatomy, physiology and "practical" pathology. Without these foundation elements, it is difficult to put into perspective our contribution to patient care, and we cannot express our best potential. We should actively seek interaction with the ophthalmologist to review current work and learn more about the eye in health and disease. Every photographer should read and be familiar with the ophthalmic photography texts available. They provide a wealth of information for a modest investment, but only if they are read and the information assimilated. We should attend programs whenever possible. If that is not within reach, getting together with others in the immediate area for a comparison of results, problems and solutions can be very helpful and motivating. There is great strength in numbers, even when that number is two.

As a bottom line, there are but three things which are important: Study, study and study. Study the basics and build on a solid foundation. Study the work of others to know what the state of the art is, then study your own and improve it. Simply put, know what you are doing and why. It will enrich your life and improve the lives of the patients you help care for.

You have a very impressive CV – it details more than 50 publications including books, chapters, scientific papers, and abstracts. 1-30 You have also been very active

in the OPS – holding a number of important positions and lecturing often. These specific accomplishments aside, if I were to ask you what would you want your legacy to be, how would you answer?

To answer that question, I need only look at what has been most important to me throughout my career. And that has been the process of learning. Learning the technicalities of my new craft, learning to provide better photographs for the care of the patient. I remember my early, tentative days in the Society when everything I heard, I heard for the first time. It was a realization that a whole new ball game was at hand and I had best learn the rules quickly. I studied at the feet of the great, and a word of encouragement from individuals like Lee Allen, Johnny Justice, Terry Tomer, Don Wong, and many others, made a tremendous difference in what I thought I could accomplish. Logically, I have endeavored to give back to the profession what I can by encouraging others, by example, by being an effective teacher. I take my responsibility in that regard very seriously. When you teach, you force yourself to learn. Professionalism and the pursuit of quality are natural byproducts. I am also of the firm belief that teaching is a tremendous privilege, something which one earns by doing it well. I would like to believe that I have been an effective teacher.

You exhibit your personal photographic work as well as your ophthalmic work in galleries and museum settings (Figure 3). Your most current showing of "Landscapes of the Eye" ran concurrently with a Smithsonian exhibition on sight, from March 19 through June 11, 2000 at the Dennos Museum Center at Northwestern Michigan College in Traverse City. How do you choose which particular ophthalmic images to use?

On occasion, as I sit behind the camera gazing at the subject eye, I suddenly realize that my socks are being knocked off. That's when I know it will be an IMAGE (provided, of course, that I do my job well and the film doesn't get munched in processing)!

The photo slit lamp has yielded the lion's share of such images. With its ability to isolate with illumination and magnification, even serious conditions can be turned into pleasing or exciting abstractions, especially for the lay audience. The eye is a beautiful structure and provides unlimited variety for the camera. Truly remarkable images are the result of several fortuitous elements coalescing, and the photographer's ability to take full advantage of the circumstance. All of the images in "Landscapes of the Eye" have, at one time or another, passed the acid test; the critical scrutiny of the OPS Scientific Exhibit judges.

Why are you retiring at the early age of 59?

During my twenty nine years behind the camera, I have listened to countless patients describing their plans for retirement, only to have them compromised by vision or other health problems. I decided to pursue my other interests while good health and my wits are still about me. My "other" photography, music, wood sculpting and travel with Jean are among the things I wish to explore further. For my last six months in the department, I have been given the privilege of a phased retirement/sabbatical to help me finish two large academic projects. Once completed, I will have accomplished most of what I intended to do in ophthalmic photography.

Can you share what you are working on?

One is a book titled *Descriptive Interpretation of Ocular Angiograms*, the other is a video/CD-ROM project derived from my slit lamp photography text, *Clinical Slit Lamp Biomicroscopy and Photo Slit Lamp Biomicrography*. I have been working on both for some time.

The book is intended to fill a current void between the very basics of angiography and diagnostic interpretation. What I intend is something that will provide a practical, understandable, and universally applicable description of abnormal angiograms: something that describes in detailed but simple terms what happens inside the eye during an angiogram. By emphasizing basic elements and substructures, I hope to de-mystify this often confounding process.

The slit lamp tape/CD is intended to make the text more understandable. Slit lamp examination and photography are challenging disciplines and, as text is, by its nature, devoid of both the third dimension and the element of motion, they become doubly challenging to learn. By adding the element of motion, I hope to make these procedures more readily understandable.

Csaba, it has indeed been a pleasure spending time with you this afternoon. I'd like to thank you and Jean for the tea and your hospitality. Before leaving, could you share one last thought? What advice would you give to an ophthalmic photographer starting out today?

Study, become a Certified Retinal Angiographer. Become involved. Encourage and help the Society make progress toward the next level. Study more, and become certified at that level also. Then, study to become a Certified Ophthalmic Technician. You will not only become much more marketable, but a lot smarter than the level of the material you assimilate. Remember, the learning process, itself, is as important as what you learn. And share what you learn. Encouraging, motivating and teaching others along the way is the greatest gift you can give; both to your students and yourself.

Pat, I want to thank you for traveling to Ann Arbor to reminisce with me about the things that have been meaningful in my life. One does not accomplish things alone, however. The Department of Ophthalmology, under the supportive leaderships of Drs. John Henderson and Paul Lichter, has been "home" for 29 years. It has been a privilege to work and learn in such a stimulating environment, in the company of a world class faculty. Furthermore, my



Figure 3a: "Saguaro and Ocotillo" near Tucson, AZ.



Figure 3b: "Sky Ferns". Accidental double exposure of fern trees and the blue mountains of NSW, Australia.



Figure 3c: "Wyoming Sunset". SW Wyoming



Figure 3d: "Pele's Skylight". Lava flow on the Big Island of Hawaii.

Fruit". Sonora, Mexico.



Figure 3f: "Uluru and Clouds". Uluru National Park, Northern Territory, Australia.



Figure 3g: "Late Summer Teasel". Michigan.

ability to function creatively was facilitated by the day-to-day help of my secretaries, Marsha Nehls, Cathy Morsefield, Linnea Bragg, Chris Hourani, Marge Hamlett and Jennifer Collins; and photographers Frances Mciver, CRA, Steve Sayer and, especially, Sally Stanley, CRA, my number one associate for these twenty nine years.

The Ophthalmic Photographers' Society, representing countless individuals, has become an extended family and contributed immensely to what I am and have been able to do. The friendship, counsel and support I have enjoyed is valuable beyond measure.

Finally, the shining light of my life, my wife Jean, was always at my side, through success and adversity, ever supportive, encouraging me to be what I could be. She has painted the canvas of my life in the vivid colors of happiness, exploration and adventure. I cannot wait to see what lies ahead.

REFERENCES

- Mártonyi, C.L., Bahn, C.F., Meyer, R.F.: Clinical Slit-lamp Biomicroscopy and Photo Slit-lamp Biomicrography. Time One Ink, Ltd., Ann Arbor, 1986
- Mártonyi, C.L.: "Ophthalmic Photography" in *The Ophthalmic Assistant*, Seventh Edition, 2000: 668-695.
- Mártonyi, C.L.: "Fluorescein Angiography of the Conjunctiva" in *Ophthalmic Photography*, Justice, J.Jr., (ed.). Boston, Little Brown and Co., 1982: 187-192.
- Mártonyi, C.L.: "Slit Lamp Examination" and "Photography of the Cornea and the External Eye" in *Cornea*, Krachmer, J., Mannis, M., Holland, E., St. Louis, Mosby Year-Book, Inc., 1996, Chapters 14 and 17.
- Rodman R, Burnstein M, Esmaeli B, Sugar A, Mártonyi C, Johnson V, Brewer G: Wilson's Disease: Pre symptomatic Patients and Kayser-Fleisher Rings, Ophthalmic Genetics 1997; 18: 79-85
- Lai JC, Johnson MW, Mártonyi CL, Till GO: Complement-Induced Retinal Arteriolar Occlusion in the Cat, *Retina* 1997; 17: 239-246.
- Mártonyi, C.L., Tomer, T.L., Wong, D.: A Brief Historical Review of Certification within the Ophthalmic Photographers' Society, Chapter I. The Journal of Ophthalmic Photography, 1994; 2:60-4.
- Mártonyi, C.L.: Presidential Perspectives, 1978-80. The Journal of Ophthalmic Photography, 1994; 2:56-8.
- Strieter, R.M., Kunkel, S.L., Elner, V.M., Mártonyi, C.L., Koch, A.E., Polverini, P.J., Elner, S.G.: Interleukin-8: A Corneal Factor That Induces Neovascularization. *American Journal of Pathology*, 1992; 141(6): 1279-84.
- Han, D.P., Sieving, P.A., Johnson, M.W., Mártonyi, C.L.: Foveal Retinoschisis Associated with Senile Retinoschisis in a Woman. American Journal of Ophthalmology, 1988; 106:107-108.
- Vine, A.K., Maguire, P.T., Mártonyi, C.L., Kincaid, M.C.: Recombinant Tissue Plasminogen Activator to Lyse Experimentally Induced Retinal Arterial Thrombi. American Journal of Ophthalmology, 1988; 105:266-270.
- 12. Carter, K.D., Nelson, C.C., Mártonyi, C.L.: Size Variation of the Lacrimal Punctum in Adults. *Ophthalmic Plastic and Reconstructive Surgery*, 1988; 4:231-233.

- 13. Mártonyi, C.L.: Photographic Slit-lamp Biomicroscopes. *Ophthalmology, Instrument Supplement,* 1988; pp 120-133, 1984; pp 58-71, 1985; pp 65-79, 1986; pp 31-45, 1987; pp 18-34, 1988; pp 6-19, 1989.
- Messner, D.K., Beck, R.W., Musch, D.C., Mártonyi, C.L., Lichter,
 P.R.: Is There a Racial Difference in Physiological Cup Size?
 Ophthalmology, 1985; 92:873-876.
- Sugar, A., Meyer, R.F., Heidemann, D.G., Kaplan, S., Berka, T., Maguire, K., Mártonyi, C.L.: Specular Microscopic Follow-up of Corneal Grafts for Pseudophakic Bullous Keratopathy. *Ophthalmology*, 1985; 92:325-330.
- Bahn, C.F., MacCallum, D.K., Lovett, E.J., Varani, J., Meyer, R.F., Lillie, J.H., Mártonyi, C.L.: Corneal Homograph Rejection in the Cat. Cornea, 1984; 2:9-25.
- Barr, C.C., Vine, A.K., Mártonyi, C.L.: Unexplained Heterochromia: Intraocular Foreign Body Demonstration by Computed Tomography. Survey of Ophthalmology, 1984; 28:409-411.
- MacCallum, K.D., Bahn, C.F., Lillie, J.H., Meyer, R.F., Mártonyi, C.L.: Evidence for Corneal Endothelial Cell Hypertrophy During Post-natal Growth of the Cat Cornea. *Investigative Ophthalmology*, Visual Science, 1983; 24:247-250.
- Bahn, C.F., MacCallum, D.K., Pachtman, M.A., Meyer, R.F., Mártonyi, C.L., Lillie, J.H., Robinson, B.J.: Effect of Age and Keratoplasty on the Post-natal Development of Feline Corneal Endothelium. *Cornea*, 1982; 1:233-240.
- Bahn, C.F., Meyer, R.F., MacCallum, D.K., Lillie, J.H., Lovett, E.J., Sugar, A., Mártonyi, C.L.: Penetrating Keratoplasty in the Cat; a Clinically Applied Model. *Ophthalmology*, 1982; 89:687-699,
- Bahn, C.F., MacCallum, Lillie, J.H., Meyer, R.F., J.H., Mártonyi,
 C.L.: Complications Associated with Bovine Corneal Endothelial
 Cell-Lines Homografts in the Cat. *Investigative Ophthalmology*,
 1982; 22:73-90.
- Bahn, C.F., Vine, A.K., Wolter, J.R., Mártonyi, C.L.: Argon Laser Coagulation of a Vitreo-corneal Adhesion Following Trauma. Ophthalmic Surgery, 1982; 13:53-55.
- Mártonyi, C.L.: Fluorescein Angio-photography of the Conjunctiva. *Journal of the Ophthalmic Photographers' Society*, 1978; 1:14-15.
- Lewis, R.A., Lee, G.B., Mártonyi, C.L., Barnett, J.M., Falls, H.F.: Familial Foveal Retinoschisis. *Archives of Ophthalmology*, 1977; 95:1190-1198.
- Currie, G.D., Leonard, C.D., Mártonyi, C.L.: Photogrammetric Measurement of the Human Optic Cup. *Photogrammetric Engineering and Remote Sensing*, 1976; 42:807-813.
- Bergstrom, T., Roth, M., Mártonyi, C.L.: Pigmented Iris Angiography. Archives of Ophthalmology, 1976; 94:180:182.
- 27. Wolter, J.R., Mártonyi, C.L., and Smith, C.: A Free Floating Vitreous Cyst in the Otherwise Normal Eye of a Young Man. *Journal of Pediatric Ophthalmology*, 1975; 12:243-245.
- Lewis, R.A., and Mártonyi, C.L.: Acute Posterior Multifocal Placoid Pigment Epitheliopathy. Archives of Ophthalmology, 1975; 93:235-238
- Gutow, R.F., Plant, J.F., Lewis, R.A. and Mártonyi, C.L.: Ocular Toxocariasis. Archives of Ophthalmology, 1975; 93:164-165.
- Wolter, J.R., Skut, A.L., and Mártonyi, C.L.: Hemangiomalike Clinical Appearance of a Collar-button Melanoma Caused by the Strangulation Effect of Bruch's Membrane. *American Journal of Ophthalmology*, 1973; 76:730-733.