# History, Science & Art of Ocular Prosthetics

Robert S. Sherins, MD
UCSF, School of Medicine, Class of 1963

UCSF, Kalmanovitz Library
Special Collections
Thursday, May 28, 2015

# Origin of Modern Ocular Prosthetics

## A Retrospective Review of the Evolution
## and
## Ancient Spiritual Perceptions about the Eye

- Eight Generations of Ocularists, Lauscha, Germany
- Augenkunst, Ocular Pathology Kits
- Ancient Spiritual Perceptions:
  - Ayurveda - Hindus
  - Pre-Dynastic Egyptians/ Nubians
  - Pharaohs
  - Early Hebrew & Christian Traditions
- Development of Modern Ocular Prosthetics

A Research Manuscript

By Robert S. Sherins, M.D.

# About the Author

Robert S. Sherins, M.D.

Dr. Sherins graduated UCLA, AB Zoology, 1959 and attended the UCSF School of Medicine, receiving his Medical Degree in 1963. He completed his Internship at the Wadsworth Veterans Hospital in West Los Angeles in 1964 and served as a flight medical officer with the rank of Captain in the United States Air Force at the NATO airbase in Incirlik, Turkey, 1964 – 1966. Dr. Sherins completed his Ophthalmology residency at Wadsworth Veterans Hospital and the Jules Stein Eye Institute, UCLA School of Medicine, 1970. He was certified by the American Board of Ophthalmology in 1972 and served on the Clinical Attending Staff at the Jules Stein Eye Institute 1970 - 1984. He established a clinical practice of Ophthalmology in Santa Monica, California, and served on the medical staff of Saint John's Health Center; served as Chairman of the Ophthalmology Section of the Department of Surgery from 1980 to 1986; and served in the Southern California Lions Eye Institute at Saint John's Hospital from 1970 to 1997. He was president of the Bay Surgical Society, West Los Angeles, in 1985, and historian thereafter. Dr. Sherins is the founding chair and historian of the Saint John's Physicians Alumni Association since 1997.

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# Acknowledgments


- Phillip A. Danz: Ocularist of Sacramento, California.
- William A. (Willie) Danz: Ocularist of San Francisco, California.
- William Randy Danz: Ocularist of Ridgewood, New Jersey.
- Polina Ilieva: Senior Archivist of the University of California, San Francisco, Kalmanovitz Library, Knowledge and Learning Center, Special Collections and Archives, San Francisco, California.
- Gary Bernard: Director of Alumni Development for School Programs, University of California, School of Medicine, San Francisco, California.
- John Lawrence Garwood, MD: Specialist in surgical and clinical ophthalmology, Santa Monica, California.
- Jayantkumar Patel, MD: Specialist in surgical and clinical ophthalmology, Santa Monica, California.

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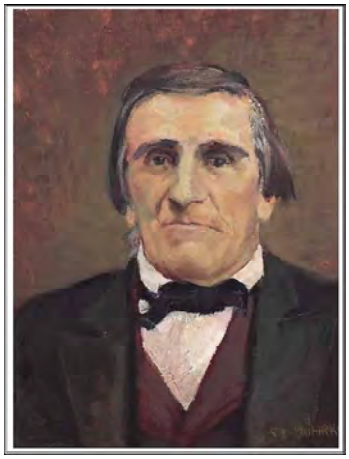
# Preface



Modern methods of creating ocular prosthetics can be traced to the ingenuity of ***Ludwig Müller-Uri*** (Mueller), a ***Glasbläser*** (glassblower) from Lauscha, Province of Thuringianstadt, Germany. When Ludwig was born (1818), he was already a descendant of well-known glassblowers that were established in Lauscha since the 17th century, when the town was founded. In fact, there were many other glassblowers living in Lauscha, whose glass craftsmanship was well recognized throughout Germany. Initially artisans created utilitarian vessels and house wares. Later on they crafted magnificent Christmas ornaments. Germans, as well as other Europeans, journeyed to Lauscha to purchase their unique holiday decorations. Many craftsmen began to create glass "eyes" for dolls and toys, but they were merely ornamental.

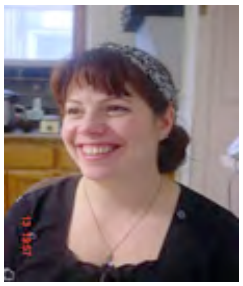
Ocular injuries have been common in the world often leaving the victims severely disfigured. As you will learn in this manuscript, there had been many attempts to create ocular prosthetics. However, they were not designed well enough and most of them were certainly uncomfortable. The oldest discovery of prosthetic eyes was found among Egyptian burials. The earliest of them dated about 14th to 15th centuries BCE. Interestingly, the first archeological evidence of the use of glass was found among Egyptian sites about the same time. Originally, external eye patches were used with cosmetic decorations; wealthier clients may have utilized precious metals (gold or silver) or jewels for ornamentation. Greeks and Romans embellished statues, as well as used eye patches for patients. Some patches were painted with symbols. In 17th century France, Ambroise Paré created pressed glass ocular prosthetics whereas the German blown glass was hollow and lighter. However, they only were made in approximate sizes, which did not fit well and were uncomfortable. It was Ludwig Müller-Uri, who developed glass prosthetics that was individually fit to each patient. He used a better quality of glass as his medium and the result made him a much sought after artisan. His methods became the standard for modern ocular prosthetics in the world.

Gottlieb Theodore Danz, Sr., was the first Müller to immigrate to America (early 20th century). He created ocular prostheses in New York and later in San Francisco. His sons became ocularists in San Francisco.

Phillip A. Danz, ocularist of Sacramento, California, middle son of Gottlieb Theodore Danz, Sr.

William (Willie) Danz, ocularist of San Francisco, California, youngest son of Gottleib Theodore Danz, Sr.

William Randy Danz, ocularist of New York City. Son of William Danz; grandson of Richard Danz; 2nd Cousin to Phil and William Danz.



Heather Danz, of Montclair, New Jersey, became the first female ocularist in the family and the 8th generation of Danz ocularists. She is the daughter of William Randy Danz.[1]

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[1] See Müller-Uri/Danz family tree, Chapter Three, pages 45-48. Heather is 5th generation Danz family, but she also is 8th generation from founder Ludwig Müller-Uri, who created the individually fit glass prosthesis. The families were connected back through Anna Mueller-Hipper (Reinhardt), who was the niece of Amandus Mueller, descended from Ludwig Müller-Uri.

# Ocular Prosthetic Augenkunst[2]

Robert S. Sherins, MD

In 1780, an unknown nephew of Ludwig Müller-Uri, probably named Johann or Johannes Danz, lived in Lauscha and produced a long line of sons, who became noted ocularists in Europe and America. That branch of the family produced the following sons: ***Johann Michael and Johann Peter Danz; Carl Paul Casper Gunther was the son of Johann Peter Danz***. Their father had married into Ludwig Müller's family in Lauscha and their descendants used the new paternal surname, Danz. ***Carl Paul Casper Gunther's*** son, Gottlieb Theodore Danz, Sr. immigrated to America at the turn of the 20th century. Cousin Richard Danz also immigrated to America. His son, William ***Randy*** Danz, is an ocularist practicing in Manhattan, New York. Randy's daughter, Heather, is the first female ocularist in the family. She represents the 8th generation of ocularists in their family.

There are historic references from Lauscha that mention a much older male glassblower of the Muller-Uri family, who lived during the 1660s. At least 4 or 5 generations are missing in the family tree between the first mentioned and the birth of Ludwig Müller –Uri, born in 1818. From historic records it is known that

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[1] See Müller-Uri/Danz family tree, Chapter Three, pages 45-48. Heather is 5th generation Danz family, but she also is 8th generation from founder Ludwig Müller-Uri, who created the individually fit glass prosthesis. The families were connected back through Anna Mueller-Hipper (Reinhardt), who was the niece of Amandus Mueller, who was descended from Ludwig Müller-Uri.

[2] Augenkunst translates as "Eye Art" and refers to the artful creation of ocular prosthetics.

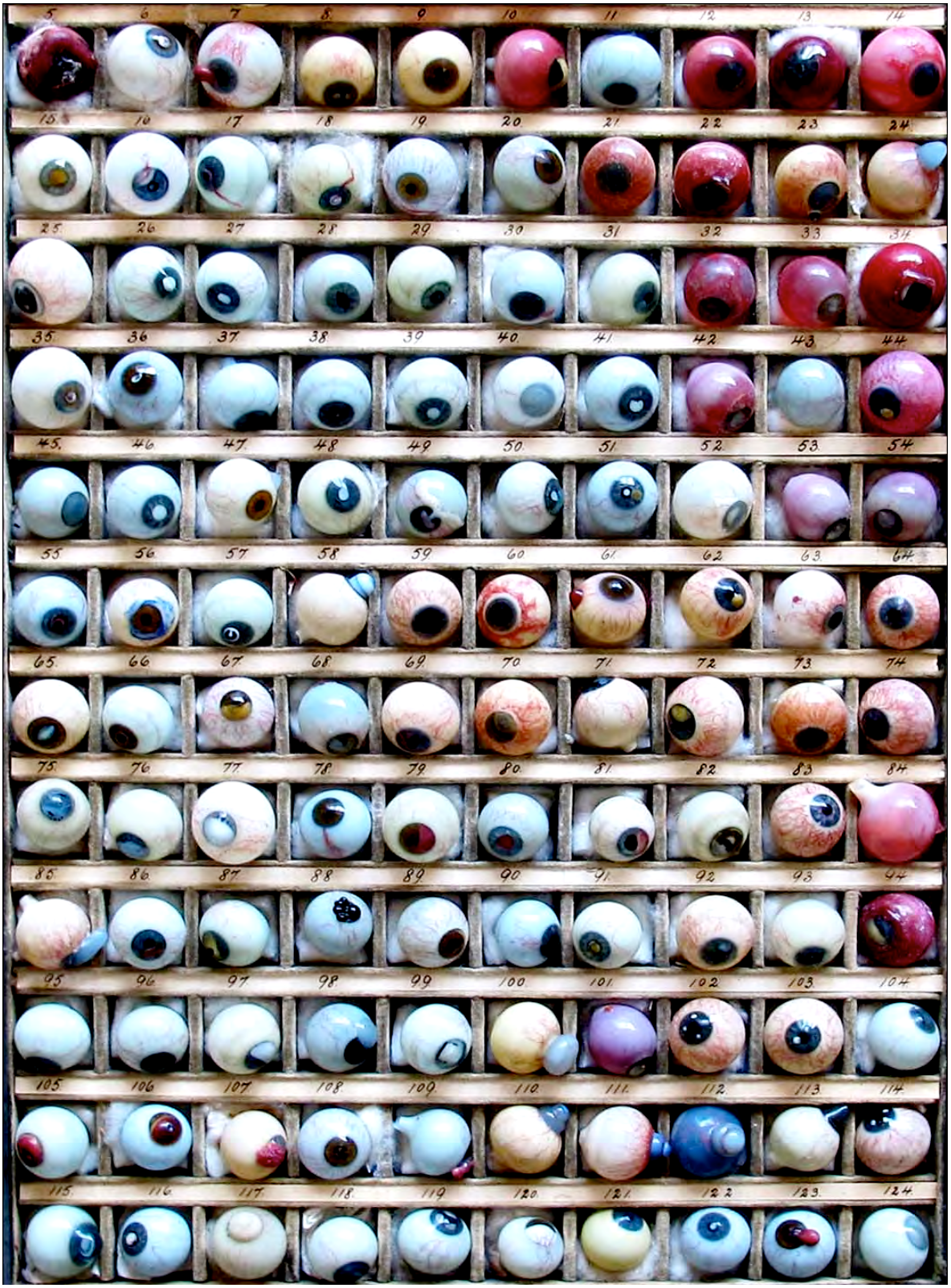
there were many families and their descendants, who became skilled glassblowers. To this day, Lauscha remains a center of skilled "glasbläsen."[3]

During the 1880s, ***Amandus Müller***, created a kit of special ***augenkunst*** that consisted of ocular pathology specimens (shown below). Amandus Müller was a granduncle of Gottlieb Theodore Danz, Sr. The Danz family was instrumental in producing approximately 13 "kits" of the blown glass eye models depicting the diseases that could be used as teaching devices. Danz sold the kits to European medical schools, which were employed in teaching ocular pathology to the medical students. At least one of the kits was brought with them to America.

After the death of Gottlieb Theodore Danz, Sr. in San Francisco, his widow gave the last known ocular pathology kit to her grandson, Phillip Danz. In 1963, Phil donated the kit to Professor Michael Hogan, MD, then Chairman of the UCSF Ophthalmology Department. However, in 2014, Senior Archivist, Polina Ilieva, rediscovered the kit among the archives of the Special Collection at the Kalmanovitz Library, Knowledge and Learning Center. The kit became the basis for the current exhibit about the "History, Science & Art of Ocular Prosthetics, Origin of Modern Ocular Prosthetics," May 28, 2015.

Brothers, Phil and William Danz, with gift of hand blown glass ocular pathology specimens created by their grandmother's uncle, Amandus Mueller, Lauscha, Germany, circa 1880.

[3] Glassblowing.



Ocular Pathology Kit
Lauscha, Germany, circa 1880
Archived at UCSF Kalmanovitz Library, Special Collections

# About ***D. Danz & Sons, Inc***

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## About D. Danz and Sons, Inc.
## & The History and Technology of Acrylic Prosthetics

During WW II, it became difficult to obtain the special glass manufactured in Germany that was used in the process of hand blowing glass artificial eyes. During that time, a new material was being developed, specifically, Methyl Methacrylate Polymer (plastic), which was also being used in dentistry in the late 1930s and early 1940s. Gottlieb T. Danz and Ursula Danz, in collaboration with a dental technician, Karl Rohrer, developed a method of manufacturing acrylic plastic (PMMA) prosthetic eyes (circa 1942). In the ensuing 20 years, the acrylic artificial eye became the material of choice for most patients in the United States. Two distinct advantages of the plastic prosthesis over the glass is that they do not shatter when dropped and do not etch as readily as the glass and therefore could be worn longer. Now, with the development of new techniques in the fitting and fabrication of ocular prosthetics along with new more successful surgical techniques and materials used by oculo-plastic surgeons and ophthalmologists, we look forward to many more years of serving patients with an ever-increasing quality of our services.

Today the Danz & Sons family and staff represent an incredible 8 generations of dedicated service in the highly specialized field of ocular prosthetics! We are committed to providing the highest level of care using the latest in technology and time honored excellence for each and every one of our patients. Our ocularists are thoroughly trained in the complete anatomy of the human eye and ocular system with a unique emphasis on prosthetics. Due to the specialized nature of this type of work, there are no formalized training programs in the U.S. for specialists entering this field. Because of this, most technicians acquire their skills and experience through apprenticeship with firms within the industry or from government training courses such as those available from the Veterans Administration. With ever-evolving technology and recent advances in the field of ocularistry, we constantly strive to stay on the leading edge with continuing education and symposiums with the world's leading authorities in the ocular prosthetic profession. We are also accredited members of the American Society of Ocularists, a national organization of specialists in the field.

Our company has been serving patients in the California, Nevada, and Hawaii for over 33 years, providing our patients with custom fitted, hand sculptured and hand painted ocular prosthetics. Our office staff is also highly skilled in the fitting of thin shell prosthetics, (also know as Scleral Shells) over blind, disfigured eyes such as phthisis bulbi. We are also experienced in fitting state-of-the-art orbital implants such as the Hydroxyapatite (Bioeye) and Medpor, along with their pegging and sleeving systems.

## Company History

Gottlieb T. Danz, Sr. established businesses in San Francisco in 1927 and Los Angeles in 1931. They were glass eye-makers, trained in Lauscha, Germany, the birthplace of the invention of special techniques in the fabrication and fitting of glass artificial eyes (circa early 1830s). Throughout the 1930s and 1940s, they traveled throughout the west coast, blowing custom glass eyes for individual patients. G. Ted Danz came to work for his father in the 1950's, working with plastic as glass was slowly becoming a lost art.

G. T. Danz, BCO, married Dorothy Alcorta in 1974. At that time, the company G. Danz & Sons, Inc. was run by Ted and Phil Danz. Both brothers decided that they would operate certain divisions of the company. Phil Danz stayed in the Bay area, San Jose, Oakland & Sacramento. Ted Danz maintained his office in San Francisco also continuing with his satellite offices located in Stockton, Fresno, Bakersfield, San Luis Obispo, Eureka & Redding, CA; Reno, NV; Medford, OR; and Boise, ID. Both brothers would operate in the San Francisco office on separate occasions until 1977.

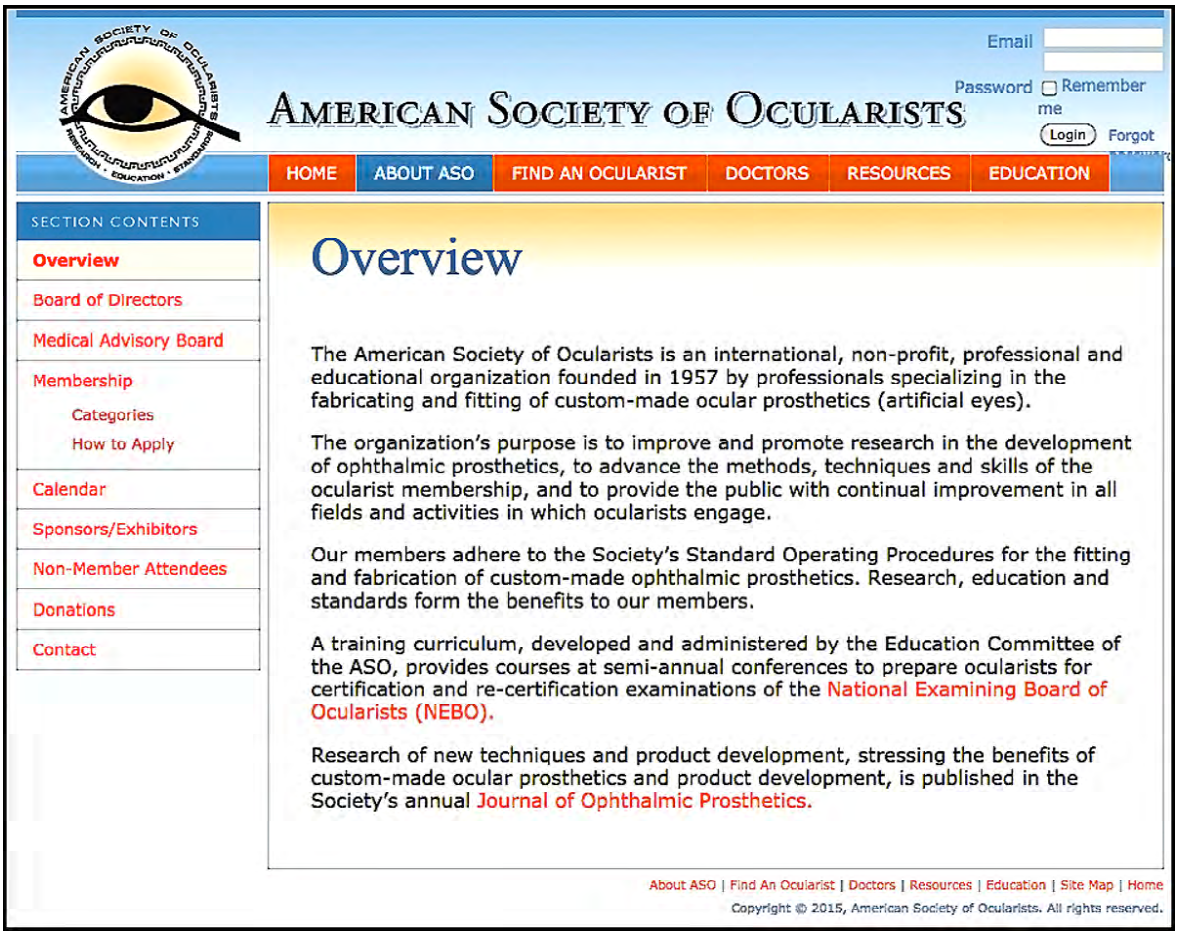
Antonio Alcorta began as an apprentice/trainee in October 1976 under the tutelage of Ted Danz at the San Francisco location. Upon the demise of Ted Danz on July 8, 1978 the corporation was split between Phillip A. Danz & Dorothy Alcorta Danz. Mrs. Danz continued operation of her portion of the corporation under the name of D. Danz & Sons, Inc. for the next five years. On December 10, 1984 Dorothy A. Danz sold her corporation to her son & daughter-in-law, Antonio & Melissa Alcorta. Mrs. Danz then relocated herself to Oklahoma and retired shortly thereafter.

Antonio & Melissa began operation of D. Danz & Sons, Inc. on December 10, 1984 and they immediately expanded the company in the Idaho area. They also began traveling to Honolulu, HI four times per year at the requests of many physicians and patients on the Islands. They have since opened & maintain a permanent office in Las Vegas, NV.

Antonio has trained two Board Certified Ocularists, Sam F. Murano, II and Brian Grabowski. Sam purchased the locations in Idaho and has expanded his locations since under the name Intermountain Ocular Prosthetics. Brian Grabowski is now operating the offices in Eureka & Redding, CA, Medford & Eugene, OR and his permanent office located in Sacramento, CA, under the name, Grabowski & Associates. Antonio is currently training his son, Antonio L. Alcorta, I. He is expected to take over the Las Vegas location upon achieving his Certification.

Antonio has trained three Board Certified Ocularists, Sam F. Murano, II, Brian Grabowski and Antonio L. Alcorta, I. Sam purchased the

# American Society of Ocularists
# Founded in 1957



AMERICAN SOCIETY OF OCULARISTS

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## Overview

The American Society of Ocularists is an international, non-profit, professional and educational organization founded in 1957 by professionals specializing in the fabricating and fitting of custom-made ocular prosthetics (artificial eyes).

The organization's purpose is to improve and promote research in the development of ophthalmic prosthetics, to advance the methods, techniques and skills of the ocularist membership, and to provide the public with continual improvement in all fields and activities in which ocularists engage.

Our members adhere to the Society's Standard Operating Procedures for the fitting and fabrication of custom-made ophthalmic prosthetics. Research, education and standards form the benefits to our members.

A training curriculum, developed and administered by the Education Committee of the ASO, provides courses at semi-annual conferences to prepare ocularists for certification and re-certification examinations of the National Examining Board of Ocularists (NEBO).

Research of new techniques and product development, stressing the benefits of custom-made ocular prosthetics and product development, is published in the Society's annual Journal of Ophthalmic Prosthetics.

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**"Welcome to NEBO",**
**The National Examining Board of Ocularists, Inc.**

**The Examination is only available in English**
**" translators and/or dictionaries are not allowed"**

**The 2015 Certification Examination for Ocularists** will be Tuesday, November 17, 2015, 1:00pm until 5:00pm, The Mirage Hotel and Casino, 3400 S. Las Vegas Blvd. Las Vegas, NV 89109. Exam room **"Barbados A"**. Confirm room prior to exam. Examination administered and processed by CASTLE Worldwide, Inc. of Raleigh, NC. .

**2015 APPLICATION is available.**
**Application Deadline, August 14, 2015**

From NEBO, The National Examining Board of Ocularists, Inc.:[4]
http://www.neboboard.org/

*"...In 1980, leaders of the American Academy of Ocularists formed the National Examining Board of Ocularists in response to the need fro more uniform standards in the field of ophthalmic prosthetics. The examining agency is fully independent and pursues its principal function in the assessment of the competence of ocularists in healthcare and the related fitting and fabrication of ophthalmic prosthetics.*

*The Board consists of eight members appointed by the American Academy of Ophthalmology, the American Board of Certification of Orthotics and Prosthetics, the American Society of Ocularists, the Canadian Society of Ocularists and a public member, who is elected by the National Examining Board of Ocularists.*

*The Certification Examination is offered annually and is a two-part examination consisting of written and practical sections. The examination is a criterion-referenced examination, which has been developed and continues to be re-evaluated utilizing techniques, which are accepted and approved by the psychometric community.*

*The National Examining Board of Ocularists is a member of the Institute for Credentialing Excellence (ICE), formerly the National Organization for Competency Assurance (NOCA). Guidance from the commission is for organizations to meet the most rigid standards of excellence in test development and administration in certification.*

*The National Examining Board of Ocularists shall not discriminate against applicants on the basis of age, sex, color, religion or national origin, and shall include a statement of this non-discrimination policy on the application and other publications..."*

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[4] National Examining Board of Ocularists, Inc., 625 First Avenue, Suite 220, Coralville, IA 5224102101, USA. Tel: (319) 354-3465. http://www.neboboard.org/

# "Ancient and Contemporary History of Artificial Eyes"



WILLIAM DANZ, SR.

BOARD CERTIFIED OCULARIST

RICHARD DANZ and SON'S, OCULAR PROSTHETIC LABORATORY

NEW YORK, N. Y.

# Ancient and Contemporty History of Artificial Eyes William Danz, Sr.



ANCIENT AND CONTEMPORARY HISTORY

OF ARTIFICIAL EYES

WILLIAM DANZ, SR.

ABSTRACT

Throughout history, the human eye has been mentioned by authors as the most precious of gifts. It unveils the entire outer world to our consciousness, gives life expression and dignity to the face. The loss of an eye must therefore have always been regarded as the greatest misfortune.

The ancient cultures of Babylon, Jerico and Egypt used "art-eyes" in mummies, sarcophagus lids and statues; made from precious stones, silver, gold and copper - as a symbol of light and life in their religious beliefs. Most of the recorded sources concerning the ancient practice of medicine were among the scrolls contained in the library of Alexandria.
In the period between the Roman Colonial wars, the rise of Christianity and the fall of Alexandria to Arabs in 642 A D, almost all of these sources, including those concerning the practice of Opthalmology were lost.(1) The largest collection of antiquity "art-eyes" and artificial eyes to be mentioned in this paper are to be found in the collection of the firm of Muller and Sohne, Wiesbaden, Germany. They include the progress made in human artificial eyes to modern times. Historically, man has tried to alleviate the psychological suffering incurred by the loss of an eye, by hiding or covering the defacement with a patch.

Of greater significance are the efforts made by the Opthalmologist and the Ocularist (past and present) to restore functionally and cosmetically the natural facial appearance by means of an ocular prosthesis which corresponds to the remaining natural eye. Associated problems frequently concern both the reconstructive surgeon, who must be informed of the ocular prosthetic possibilities that are within the capacity of the ocularist, who must create the prosthesis. (2)

(Key Words) - Antiquity art-eyes, artificial human glass eyes, shell glass eyes, Snellen reform glass eye, ocular prosthetics, methyl methacrylate M.M.A., 'epethesis' (facial prosthesis).

## INTRODUCTION

Ancient history has left little documentation of facts, as to when man was first fitted with an artificial eye. In view of the skills of the Egyptian artisans, conjecture leads one to believe that they may have made artificial eyes for living people. The old Babylonian and Sumerian Codes indicate that eye surgery was done circa 3000 B.C., for the laws contained sections penalizing physicians for unsuccessful eye operations.(3) Information concerning artificial eyes appeared in a book about surgery published by Ambroise Pare, in Paris in 1561. He described two types of eye prostheses which were in use at the time. The first he named "Hyplepharon", which was fitted underneath the eye lids over a shrinking phthisical globe. The second one was the "Eclepharon" which was an artificial eye, with the lids and brow - painted on an oval leather shield. This was attached to a metal spring band, which encircled the patients head. It was the first known "epethesis" or facial prosthesis. They were also made by the process of enameling gold and silver. (4)

In 1749, Philip Adam Haug from Tubingen, wrote a book concerning artifical eyes. He mentioned a man named Wolhus, who reported in 1681 the existance of artificial eyes that were made for human use during the reign of Ptolomaues Pheladeiphas in 285 B. C. It was during his reign that the famous library in Alexandria was founded. Haug also stated that the artificial eye must be made to fit the size and contours of the enucleated socket. (5)

In 1752, Laurent Heister, a German surgeon, wrote a book called "Chirrurgie", in which he gave instructions dealing with hygene in the handling of artificial eyes. He suggested the use of glass rather than metal eyes, since glass could be better tolerated by the orbital tissue. (6)

In the beginning of the 19th century, France had become the center of artificial eye making. Most of the Ocularists had studios in Paris. Circa 1818, Hazard-Mirault published his book outlining the proper standards for the Ocularist. (7) He included only those colleges in his profession that had sufficient medical knowledge to shape the prosthesis in such a manner that it would fit comfortably into the eye socket of the patient. Thru his writings, a higher code of ethics was requested to his fellow Ocularists. He designed and developed standard forms with his prostheses that applied to individual fitting problems of the time.

Boissonneau, 1849, established the way to the modern Ocularists profession. (8) He was a gentleman with exceptional artistic abilities and author of books relating to artificial eyes. His studio in Paris produced stock glass eyes that were sold throughout Europe and were also sent to America. His apprentices eventually established their own practice's in other cities in Europe, England and America to make custom eyes for their patients. He is credited with formulating the term "Ocularist" for the professional glass eye maker.

In 1835, Ludwig Muller Uri, from Lauscha, an isolated village in the mountains of the Thuringen forest, made doll's eyes that were very life-like. (9) He pioneered new materials and methods for the making of human glass eyes. In place of lead oxide glass, he first used white bone glass in order to produce scleral shades. Unlike all previous Ocularists before him, that used china enameling pigments to paint the iris colors on the glass globe, he developed a very unique method to create the most life-like iris, not surpassed to this day. Using a clear crystal glass rod, he melted and applied, along the length of the heated rod, thin stripes of colored glass evenly spaced, so that clear crystal remained visible. He then twisted the heated rod and drew the glass out to a thin pencil-like form, 3 m/m in thickness. When applied to the iris base color previously melted into the ready glass eye ball, the stroma effect would be in thin layers, creating

a semi-transparent depth to the iris after the crystal cornea was melted into place. The limbus edge became very natural. The thin glass pencil-like sticks previously mentioned, are made in all the colors and marking ability required. The globe for the artificial eye is drawn from a section of glass tubing.

(Fig. 1) Adolf Danz in 1937, at his work bench. As the process continues with steady, gentle rolling motion of the fingers, the glass eye begins to develop. The torch is controlled from moderate to very intense heat, exceeding 1500 degrees Fahrenheit. The flame at times is barely visable.

(Fig. 2 A) Preparing the globe.

(Fig. 2 B) Applying the base color.

(Fig. 2 C) Developing the iride.

(Fig. 2 D) Laying on of the veining.

(Fig. 2 E) The anterior shape finished, now drawing in the posterior and shaping the periferal curves.

(Fig. 2 F) Proceeding to withdraw the pipete and drawing in the posterior of the form.

(Fig. 2 G) The thin thread of glass between the pipete and the posterior of the glass eye is still hollow, allowing air to be drawn out.

(Fig. 2 H) The final annealing of the extremely hot glass eye which then is placed in an asbestos cooling container. The interior process is in motion every second with intense concentration required.

The Muller family, along with Christian Muller-Pathie, a glass smelter in Lauscha, developed a new "cryolite" glass. Arsenic oxide and cryolite form sodium aluminum flourde, producing the whitish gray sclera color. (10) The glass is extremely hard and light and does not irritate the conjunctiva. This new glass tubing with the use of a gas burner (torch) made it possible to form and shape a prosthesis as desired by the Ocularist. The glass was characterized by its transparency during the forming process and on slightly cooling in the finishing process, turning the scleral color desired. Ludwig Muller Uri, 1814-1888, received numerous gold medals and awards for his work beginning in 1854. In 1876 he was invited by the United States Centennial Commission to demonstrate his art at the International Exhibition in Philadelphia, where he received the gold medal award.

A nephew of Ludwig Muller Uri began his apprenticeship in the making of human glass eyes in 1855. He was Friedrich A. Muller who continued to improve techniques and who moved to Wiesbaden to establish his studio at Taunusstrasse 44, where the studio is to this day. F.D. Muller is credited with the development of the double walled (hollow) glass prosthesis. Prior to this achievement all glass eyes were made in a shell form - the edges being thin, were in many cases uncomfortable to wear. The new hollow glass eye had nicely rounded edges. In shaping the eye, the anterior of the glass globe was blown to the desired corneal curve and peripheral dimensions. The posterior section of the globe was drawn back towards the anterior of the form. This was controlled to the final desired thickness of the prosthesis. This form is made to find support at the anterior of the eye socket and the peripheral contours of the orbital cavity, providing comfort and excellent appearance. The new prosthesis was named "the reform eye."

Dr. Snellen, a Dutch physician intoduced the reform eye in the United States in 1898. F. D. Muller has been credited with the original development. He died in 1879. His sons Fritz and Albert carried on the fine work of his studio in Weisbaden, and were instrumental in further developments.

By the end of the last century most of the known ocular prosthetics had been developed. The bulbus reform - cover shells - temporary prostheses following enucleation - protective shells for Xray examination - the first scleral contact lenses. Facial prostheses (epitheses) were also made in glass. Impression fitting was experimented with but it was found that it was impossible to rely on the impression due to the disruption of the soft socket tissue. Empirical fitting was more reliable for the trained eye and judgement of the master Ocularist. (Fig 12)

The immigration of master glass eye Ocularists to the United States (10) brought Peter Gouglemann, in 1851. He was a Swiss citizen and had been a student of the famous "Boissonneau - Paris. He established his studio on Van Dam Street in New York City. Some time later, Peter trained as apprentices George and Henry Mager. When Peter Gougelmann died, George Mager taught Peters three sons - Pierre, Paul and Walter.

Stock eyes in shell and reform shapes were imported from Lauscha, Germany, by optical companies, doctors and hospitals throughout the United States. Inexperienced eye fitters were selling the closest match they had in stock for the patient to wear. The results were not adequate. There existed a great need for the master Ocularist.

At the turn of the century, Mager and Gougelmann made it possible for several experienced eye makers to come to America. The authors father, Richard Danz, Sr. arrived in New York City in 1914. The firm of Max Kohler and Richard Danz, Sr. was established in 1917, located on twenty third street in New York City. Following World War I, from 1920 through mid 1935, approximately 17 experienced

Ocularists arrived in New York City. (11) They were employed for a time by the firm of Max Kohler and Richard Danz, Sr. and Mager and Gougelmann, N.Y.C. Some also found employment with Paul Gougelman in Chicago. These three firms created scheduled trips to every major city in the United States, Canada and Mexico, thereby intoducing custom made ocular prosthetics through the large chain optical companies that were fitting stock eyes.

Gottlieb Danz opened his studio in San Francisco in 1930. His sons Philip and William have carried on his legacy.

Otto Greiner and Fritz Muller started their firm in Chicago about the same time. Hugo Liepold moved to Pittsburgh. Henry Mager moved to Hoboken, N.J. in 1930. Earl Schrieber Sr. located in Newark, N. J. in 1931. Earl C. Schreiber succeeded Earl Schriber Sr. who passed away in 1935.

The Ocularists named here are only a partial listing of the seventeen Ocularists that brought the art and skill of custom eye making and fitting to the broad spectrum of America.

With the advent of World War II and the pending shortage of imported raw glass materials, the glass eye firms were able to find a glass smelter in the United States to supply a limited amount of adequate glass to continue their craft for the general public and the casualties of the war. The search for a new material as a substitute for the glass was carried on by most ocular prosthetic firms and dental acrylic (methyl methacrylate, MMA) was the most suitable.

The medical departments of the Army and Navy also began the search for the development of ocular prosthetics with MMA. Richard Danz and Son's along with several other firms cooperated with their research by contributing most of their emperical glass eye forms to be studied and reproduced in the dental acrylic, MMA.

The fitting and making of acrylic eyes for the service was developed by Captain Stanley F. Erff, D.C., while on duty with the 30th General Hospital in England. Major Victor H. Dietz, D.C. and Major Milton S. Wirtz, D.C. were also working on the same project at Thomas M. England General Hospital, Atlantic City, N. J. and at Camp Crowder, Missouri. (12)

The shell and the reform type prosthesis as developed by the glass eye artisans continues to be reproduced in the acrylic material, MMA.

At the end of World War II, the Veterans Administration established eye prosthetic and maxilfacial laboratories in the Veterans facilities throughout the United States.

American Optical Company, Southbridge, Massachusetts, under the direction of Fritz Jordan (13) who pioneered the mass production of of acrylic (MMA) eyes also entered this field. The new monoplex department was eventually expanded by Roger Alton, Manager. Seventy five stock colors and eighteen basic shapes were developed. Through a complicated code system, eyes could be selected from a catalog, indicating the iris color, shape, veining and sclera.

By 1950, the optical companies had replaced their glass eye stock with the new acrylic eyes. The custom glass eye makers were adopting their skills very well to the use of MMA. As new surgical procedures developed, the Ocularist designed new methods of fitting. The original school of custom glass eye makers began to cooperate with one another and for several years maintained a display booth at the American Academy of Ophthalmology meetings - providing attending physicians with technical information regarding the making and fitting of ocular prosthetics, implants, problem cases, etc. At the American Academy of Opthalmology meeting in Chicago, October 1957, there was an informal conference of the custom glass eye makers, at which time an agreement was reached to form an association of Ocularists to promote higher standards of education and stature for the profession. (14)

These men met again in March 1958, while attending lectures at Wayne University (Kresge Eye Institute) and began to outline and clarify the association they wished to establish. The original eleven custom glass eye makers were being pressured to become a small segment of a large group of stock eye fitters. On October 13, 1958 at 5:30 P.M. at 55 East Washington Street, Chicago, Illinois a meeting was called to establish The American Society of Ocularists. The business meeting culminated in the initial structure of the Society.

THE AMERICAN SOCIETY OF OCULARISTS

OFFICERS - 1958-59

Hugh W. Laubeimer - - - President

Fritz Jardon - 1st Vice-President

William Danz - 2nd Vice-President

Charles Erickson - Secretary

Fritz Mueller - Treasurer

BOARD OF DIRECTORS

Term expires October, 1961

Hugh W. Laubheimer — William Danz — Fritz Jardon

Term expires October, 1960

Fritz Mueller — Lee Allen — Charles Erickson

Term expires October, 1959

Earle Schreiber — G. T. Danz — Henry Gougelmann

COMMITTEE CHAIRMEN

Fritz Jardon - Public Relations

William Danz - Code of Ethics

Lee Allen - Membership

Henry Gougelmann - Admissions

Earle Schreiber - Program

Numerous Opthalmologists served as Medical Advisors - in particular - Dr. Ruderman Sr., Dr. Byron Smith and Dr. Wood Lyda. The law firm of McClintock, Fulton, Donovan and Waterman, legally established the Charter of the American Society of Ocularists and incorporated the new institute in the State of Michigan, December 18, 1958.

The ensuing years witnessed the development of formal educational courses and lectures by Ophthalmologists, who became interested in the programs being presented by the Society that coincided with the American Academy of Ophthalmology meetings. As the new leadership evolved with the changes of Officers and Committies, the A.S.O. reached new heights. The names of Ocularists that stand out for their contributions are John Kelley Sr., Lee Allen, Joseph Le Grande, Philip and Willi Danz and Charles Workman. The expansion and achievements of the A.S.O. is represented in the Membership Directory of the American Society of Ocularists, 1987.

Categories of membership are as follows: Board approved diplomate membership - A board approved diplomate Ocularist shall be an active member principally engaged in the practice of an Ocularist as defined in Article 2, certified by the examining board and approved by the board of directors of the Society. The title "Board Approved Diplomate Ocularist" shall be reserved for use by these members only. Currently there are seventy four.

Associate membership: An associate member shall be a person who is principally engaged in the practice of an Ocularist, seeking board approval under the prescribed rules of the Society and certification by the examining board. Currently there are forty-eight members.

Medical Advisory board: There are at this time, twenty Ophthalmologists on the board of advisor's to the A.S.O.

Apprentice Membership: An apprentice member shall be one who is actively training in the manufacture, fabrication and fitting of artificial eyes under the supervision of a board approved diplomate Ocularist and within the standards for such training as prescribed in the rules of the A.S.O. Currently there are fourteen apprentices.

Diplomates: A diplomate member shall be one who has completed the educational program of the society and been awarded a diploma, but not yet been certified. Currently there are seven members.

Honorary Membership: an honorary member shall be a person whose outstanding contributions to the profession or the American Society of Ocularists merit recognition in this manner. Currently listed are seven members.

There are only two society groups in the world at the present time. The American Society of Ocularists and in Germany - the (V O K) Vereiningung der deutshen Kunstaugen Institute. There has been encouraging interaction with the exchange of techniques and materials used in the making of an ocular prosthesis. In the V O K opinion, glass is more compatible with the tissue of the orbital cavity.

The concern's and goals of todays Ocularist are for continued improvement of the profession on the broadest possible educational scale; in particular, the increased shared experience with the Opthalmic Surgeon.

Historically, the Society may well be the most important accomplishment for the Ocularistic profession of the twentieth century. The benefits to patient and Ophthalmologists are evident and will expand into the future.

I would like to thank the following persons for their kind assistance and cooperation:

Wolfgang W. Trester - institute Fur
Kunstliche Augen, Eberplatz 14-16
5000 Koin 60, West Germany

Christoph Muller - Fur Kunstaugen institute
F. Ad. Muller Sohne
Wiesbaden, West Germany

And all the Charter Members of the American Society of Ocularists

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(10) Schrieber, Earle C. Charter Member A.S.O. Board Certified Ocularist, Newark, New Jersey.

(11) Mueller, Fritz G. Charter Member A.S.O. Honorary Member A.S.O. Boulder, Colorado..

(12) Coates, J. B. (Ed). Surgery in World War II, Washington, D.C. Office of the Surgeon General, Department of the Army, 1957.

(13) Coty, Robert. Monoplex Division, American Optical Company, Southbridge, Massachusettes.

(14) Erickson, Charles E. Charter Member A. S. O. Honorary Member of A.S.O. Seattle, Washington.

(15) Laubheimer, Hugh W. Board Certified Ocularist, Charter Member A.S.O. Honorary Member A.S.O. Executive Secretary, A.S.O. Lake Wales, Florida.

# Foreword

By Phil Danz
Sacramento, California, November 22, 2014

It was in 1963 or thereabouts, that I visited my grandmother, Anna Mueller Reichart, in her home in Glendale, CA. She was about 83 years old and I was 25 and had been out of college and was working as an ocularist full time for about 3 years.

Without any warning or fanfare, she went back into her closet and brought out a beautiful collection of glass eyes, a hundred twenty or so of them, in a special large eye sample box, which depicted various diseased eyes, very finely made and very realistic looking.

I had never heard about them before or knew that they existed. She gave them to me saying that she trusted that I would be the best one in the family to have and protect them. I could see that she was giving me a very precious family heirloom. She said that her uncle, Amandus Mueller, made these specimens in the 1880s.

I took them back to my home in San Francisco. In the next few years, I exhibited them at my company's (G. Danz & Sons) booth once at a Pacific Coast Ophthalmology & Otolaryngology meeting and once at a meeting of the American Academy of Ophthalmology and Otolaryngology. They were a big hit.

A few years later, Dr. Michael Hogan, Chief of Ophthalmology, U.C.S.F. requested that I allow the collection to reside at their school of medicine in San Francisco.

I brought them to U.C. Medical Center, Dept. of Ophthalmology, with a letter stating that I was doing this on a "perpetual" loan basis. I have since lost the letter (I wish it could be found in the archives somewhere).

In the next years, I borrowed the collection back a few times to exhibit at ophthalmology and ocularistry meetings, and always brought them back to the U.C. Dept. of Ophthalmology in San Francisco.

I lost track of them for many years, and moved my practice to San Jose and then to Sacramento where I have spent the last 20 years of my career.

Then in 2014, Robert Sherins, M.D., an alumnus of U.C.S.F. School of Medicine, Class of 1963, called me and said that he had seen a picture of a kit

of glass eye pathological specimens and would like to know more about Amandus Mueller and my family.

Since then, we have collaborated together and with other members of my family to produce the exhibit you see here at the Kalmanovitz Library, Archives and Special Collections.

It has been most heartening to see this historical exhibit come to fruition. I have always felt some guilt that I let this family heirloom our of my hands, but now I know I made the right decision because, thanks to Dr. Sherins, the kit will have the kind of historical significance it deserves and my family's contributions will be known into perpetuity – it brings closure for me. I know my grandmother would be proud.

William Randall Danz,


Biographical Comments:

It all started in Lauscha with the glass working and flame work – making beads, decorative millinery fruits, and Christmas tree ornaments. As Dr. Robert Sherins has written, Ludwig Müller-Uri in Lauscha, Germany, developed a new way of making an ocular prosthesis from a hollow blown glass sphere. After receiving national and international awards, including an award at the 1876 World's Fair in Philadelphia, this method of making eye prosthetics was recognized as the latest technology, giving better results.[1] The Swiss office of Gougelman in NYC was using the French technique of molded glass eyes as opposed to the new German technique of hand blown glass eyes, and wanted to satisfy their customers' demands for the new improved technology from Lauscha, Germany. At the same time, economic conditions in Germany were difficult under Kaiser Wilhelm, so ocularists welcomed the opportunity to work in the United States. Lauscha ocularists came here to work, many at the invitation of Mager & Gougelman.

The Lauscha ocularists in the US worked in glass until it was impossible to obtain Lauscha glass during WWII. After many unsuccessful attempts by Corning Glass and other glassworks to reproduce the same quality and workability of the glass needed for ocular prosthetics, these ocularists and

[1] The Müller-Uri ocular prosthetic was made of Kryoglas, which was much better tolerated because it was created from more inert material and resulted in much less irritation and less mucous accumulation. The prosthetic was individually and precisely fit.

their descendants continued with the fitting skills developed for fitting hand-blown glass eyes, while working in the new plastic materials.

When Richard Danz Sr. (father of William Danz Sr., and grandfather of William R. Danz) came to the New York metropolitan area, he first worked for Mager & Gougelman and then went into partnership with Kohler, forming Kohler & Danz. When Mr. Kohler, a German citizen, would not sign a loyalty oath and was interned for the duration of WWII, Richard Danz Sr. founded the East Coast Eye Company in NYC with his sons, around the same time the West Coast Eye Company was founded in California by the G. Danz (Gottlieb Theodore Danz II) branch of the family. A year after that the East Coast Eye Company became Richard Danz and Sons, with Richard Danz Sr. , Richard Danz Jr., Adie (Adolf) Danz, and William Danz Sr. Adie was known for excellent eye making and his color work, while Arno Danz was color blind and went to work for a company that created intricate glass lab equipment. During this time period, a Mueller related to the Danz family created a large-scale hand-blown glass exhibit of microscopic sea creatures for the American Museum of Natural History, still on display today.

Richard Danz Sr. and his sons, Adie and Richard Jr., traveled around the country by train during the late 1920s and into the 1930s, with their glass eye blowing equipment in baggage, stopping at every major town in every state, in some places seeing 30 people in a day, providing custom ocular prosthetics for areas of the country where most patients were fitted with the commercially available stock eyes.

William Danz Sr. received training from his father and brothers (Adie in particular), plus additional training in Germany. He continued the business and in turn trained his son, William Randy Danz, in the family fitting and color techniques. Randy has opened an additional office in New Jersey, Danz Inc. www.artificialeyes.us, and trained his daughter, Heather Danz, who completed her apprenticeship in 2003, became board certified in 2004, and now shares a full workload of difficult fitting cases with her father, Randy.

Just prior to WWII, when Germany and Britain were already engaged in hostilities, the Danz family felt there could be a problem obtaining glass in the future. Richard Danz Sr. and William Danz Sr. traveled to Lauscha to obtain enough glass supplies to last four years, and then wound up supplying other US ocularists who ran out of glass during the war.

Another interesting family story happened in WWII, when William Danz Sr. volunteered for the Army Air Corp after Pearl Harbor. He had completed

basic training and was about to leave for pilot training, when the chief officer of the base approached him giving him the opportunity to return to the family business, because William Danz Sr. was the only apprentice ocularist in the US at that time and the Army felt he could best serve his country as a civilian.

Later in his career William Danz Sr. was involved in the formation of the American Society of Ocularists in the mid-1950s, serving as chair of the ethics committee and as one of the first board members.

With the introduction of plastic ocular prosthetics, new equipment was needed during the heat curing process of the molded plastic eye. Randy Danz developed an improved stainless steel flask, known as the *Danz Flask,* used for putting the plastic under pressure during heat curing. Randy Danz also developed and patented a dilating pupil, and follows developments in this area with great interest.

Randy Danz estimates the number of people his family has helped is in the thousands. He has seen that making people feel whole again can help to change their lives for the better. For example, one of Randy's patients was a Medicaid patient in a destructive marriage with a very poor self-image. After being fitted with a good ocular prosthesis, the woman's self-image improved. She found the strength to obtain a divorce and went on to be very successful in her line of work.

To this day, the modern day ocularists descended from the original Lauscha ocularists. They keep track of each other and relate family histories as if they are still living down the street and around the corner from each other in the village of Lauscha. They continue to provide excellent service to their patients with fitting techniques handed down through the families. Have a good cup of coffee or tea at hand before sitting down to ask Randy for stories about ocularist history.

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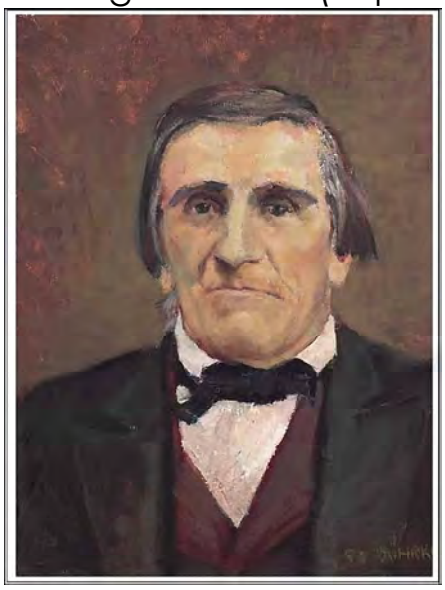
# Chapter One

## Ludwig Müller-Uri, Ocularist

Robert S. Sherins, MD
Phil Danz

Ludwig Müller-Uri (September 4, 1811 – November 7, 1888)



From Wikipedia, English translation and Bing.com/Lauscha Kunstaugen:

"…Ludwig Müller-Uri (born September 4, 1811) is credited as the founder of the modern cryo-glass ocular prosthetic, circa 1880.[5] He started his training while still attending school in Lauscha (probably about 1827-1830), making glass utilitarian vessels and flat eyes for homes, toys and dolls…"

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[5] http://de.wikipedia.org/wiki/Ludwig_M%C3%BCller-Uri


Doll's Eye

Decorative Vase

Christmas Ornaments

The town's glassblowers became famous for their ***Christmas glass decorations***, as well as makers of glass marbles. He was recognized as a talented artisan, so his skills were promoted to making the eyes for which he became most famous as an "***Augenprothetik***" (eye-maker) or "***Okularistik***" (ocularist). Apparently, Ludwig was sent to another town, Marienthal, where he trained in ***glasprothetik,*** circa 1830s. Within another few years he trained with an ophthalmologist in Würzburg, Prof. Heinrich Adelmann. With Adelmann, Ludwig made his first prosthetic eyes. He improved the product by inventing better instruments and by individually fitting each prosthetic. Previously, ocularists supplied samples of prosthetics in various sizes, but never individually fitted. His first eyes were made of a base glass with enameled painted iris details. By 1835, he began using a better quality of glass from the local ***Beinglas*** factory. It was not until 1885 that the best hydrophilic glass became available, which was crucial for the patient's tolerance of the prosthesis. Since then, ***Kryolithglas*** became the standard material in making ocular prosthetics. The product is still used in Germany; acrylic plastic has replaced Kryolithglas in the U.S. and most of Europe. Ludwig made the iris details using special tools to apply the pigments he blended to most realistically resemble the natural eye. As is known by ocularists, the glass eyes were fitted empirically in contrast with the acrylic plastic eyes, which are fitted by a combination of an impression of the anophthalmic socket[6] and then by empirically adjusting the resulting pattern to the final shape of the prosthesis.

The glass eye maker would look in the socket, try various special shapes (or custom eyes made for many people over the years), and then judge how to improve the shape of the prosthesis, (i.e. fuller, flatter, peripheral shaping, and thickness).


It took many years to become proficient at glass eye making. For most, who aspired to become masters, they started in their teen-age years and apprenticed for many years (7 years being the German standard).

There is one special reason why the glass eye makers passed on their skills on to the family. It was difficult to train anyone else for so long at such a young age.

From Phil Danz, ocularist, "…As a teenager[7] in the 1950's, working for my dad as a receptionist on Saturdays in San Francisco, I was amazed how he could

[6] Anophthalmic means an orbital socket without the eye.
[7] Phil Danz

simply look into the socket, try a few shapes and sit down at the flame to blow a beautiful glass eye, all in about 45 minutes. The patients were ecstatic. it was like a miracle!"

Ocular Prosthetics, Ludwig Müller-Uri[8]

Wikipedia listed among its references, 2 noteworthy Müller relatives, who published in German documents about creating the blown glass artificial eyes. Müller ancestors wrote those articles almost 100 years ago in Leipzig and Weisbaden. Two additional relatives published documents in German on their experiences with glass ocular prosthetics.

- *Müller-Uri, Albin:* ***The artificial eye,*** *Leiner, Leipzig 1902.*
- *Müller, Friedrich A., Müller, Albert, C.,* ***The artificial eye,*** *Miner, Wiesbaden 1910.*


Ludwig Müller-Uri With His Two Sons: Reinhold & Albin[9]

The improved design and materials of the Müller prosthetic became the world standard. It should be mentioned that the French artisans had produced metal

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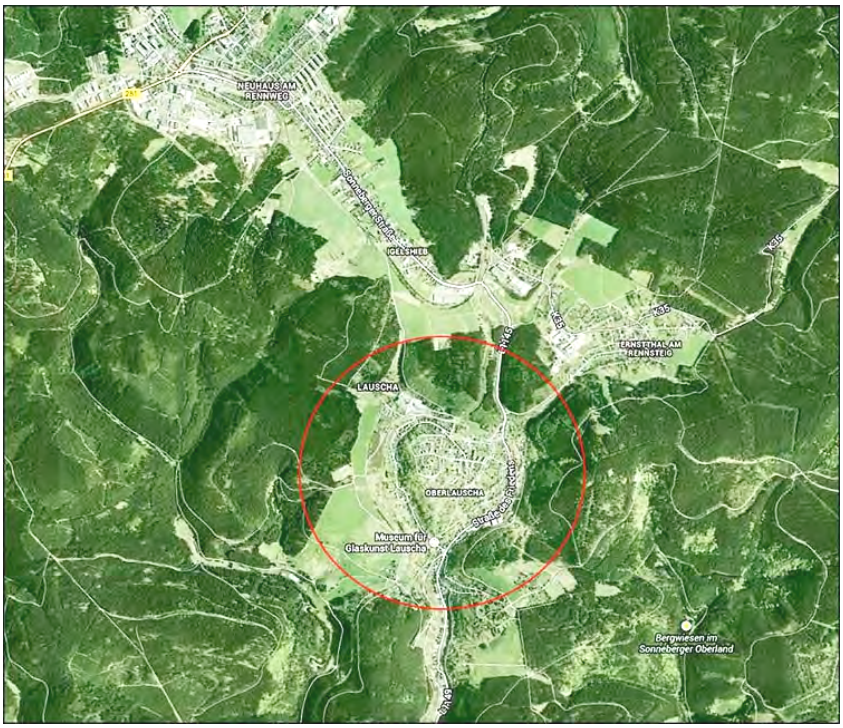
[8] http://de.wikipedia.org/wiki/Glasauge_aus_Lauscha
[9] Image donated by Phil Danz, Ocularist of Sacramento, California, retired.

# Chapter Two

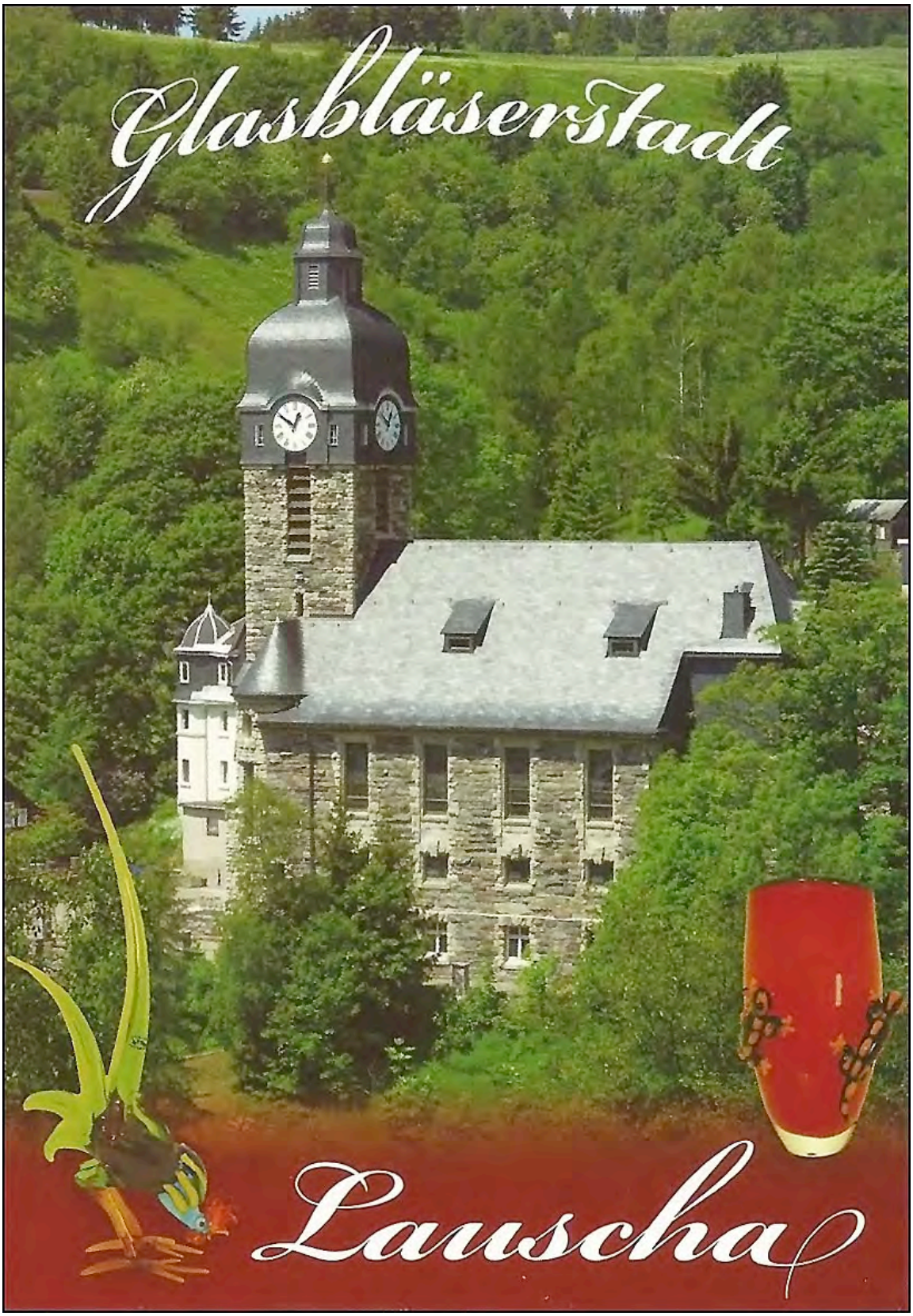
## Lauscha, Germany


Lauscha, Germany
www.google.com/maps




Town Map: Lauscha, Thuringianstadt, Germany

www.google.com/maps




"Glassblowers Town" - from a postcard

Pasture, Lauscha, Germany

Parish Church, Lauscha, Germany

www.de.wikipeda.org


Danz Family Reunion In Ancestral Town, Lauscha, German, 2003
Lt to Rt: Randy Danz, Carol Ellen Rice; Willie & Bobbie Danz; Katha & Phil Danz


Museum for Glass Art, Lauscha, Germany, 2003[10]


[10] Submitted by Willie Danz, Ocularist of San Francisco, California.

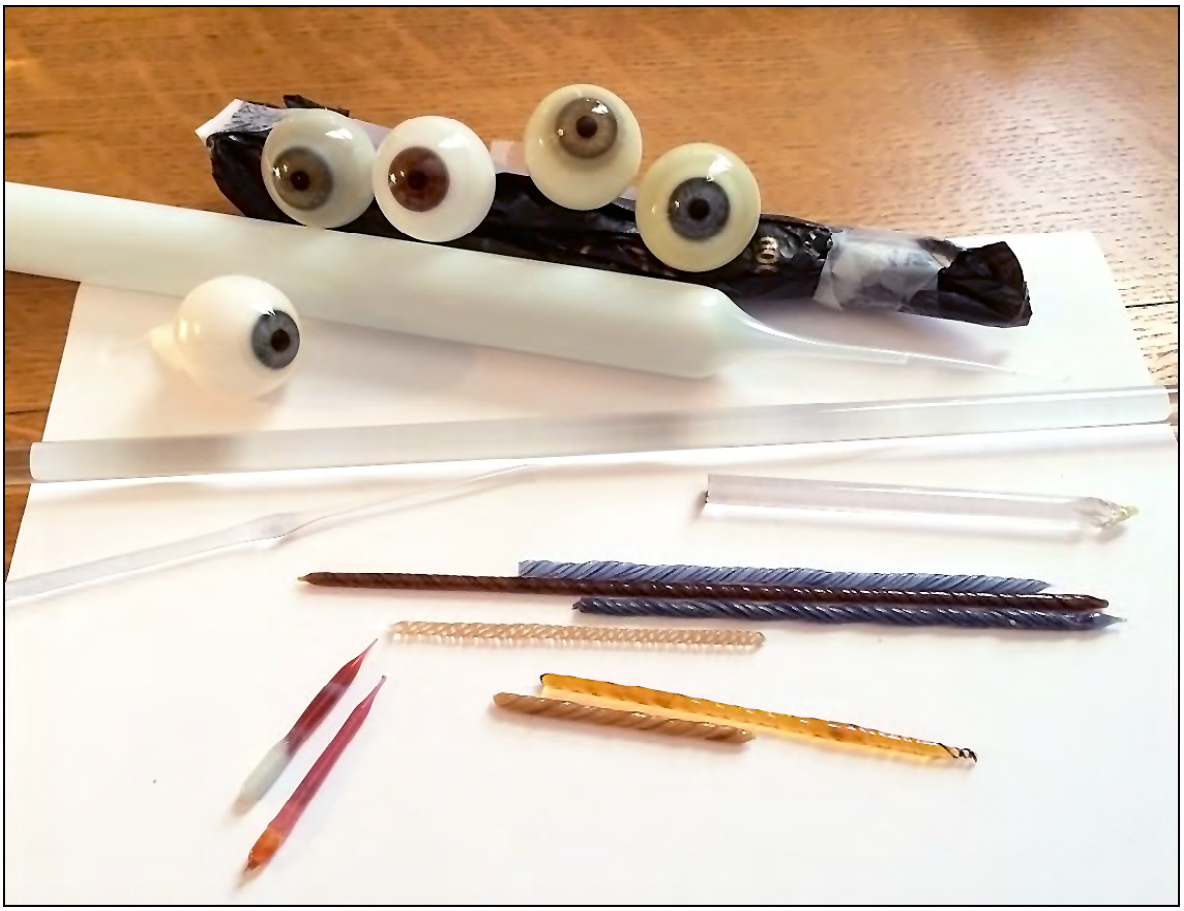
Danz Family Ocularists Visiting Lauscha Glasbläsers, 2003[11]

Glasbläser Studio Diorama, Lauscha, 2003[12]

Augenprothetik instruments & workbench, Lauscha, 2003

[11] Ibid.
[12] Ibid.

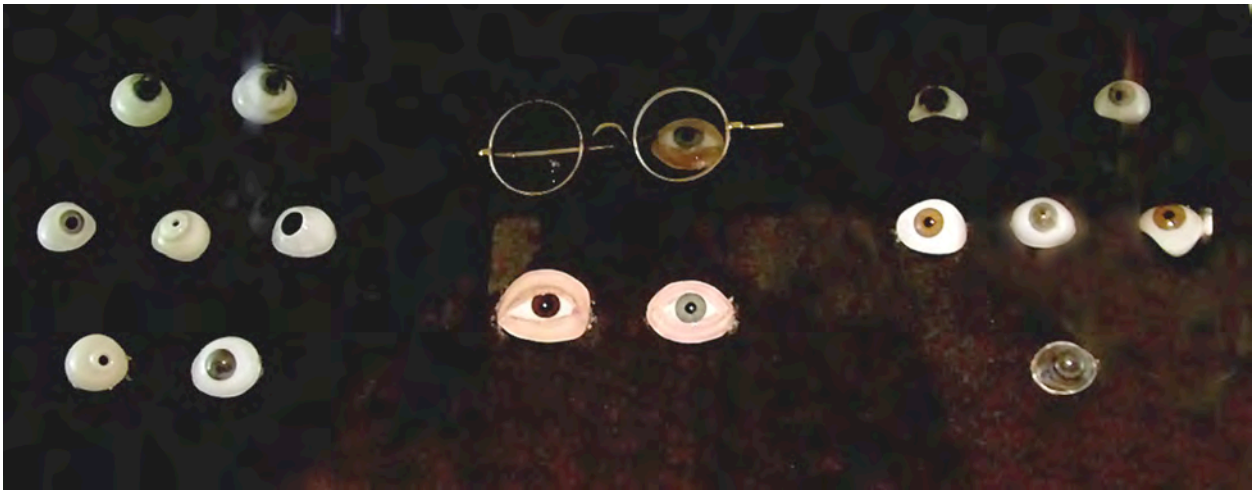
Stages of Manufacture Of Glass Shell Prosthesis
Kryolite Glass, Lauscha Museum, 2003[13]



Painted Glass Prosthetics

[13] Ibid.


Glass Color Rods for Making Glass Eyes[14]



Ocular prosthetics, exenteration prostheses and spectacle display
Lauscha Museum, 2003[15]

[14] Ibid.
[15] Ibid.


Ocular Prothetik Display Case, Lauscha, 2003[16]

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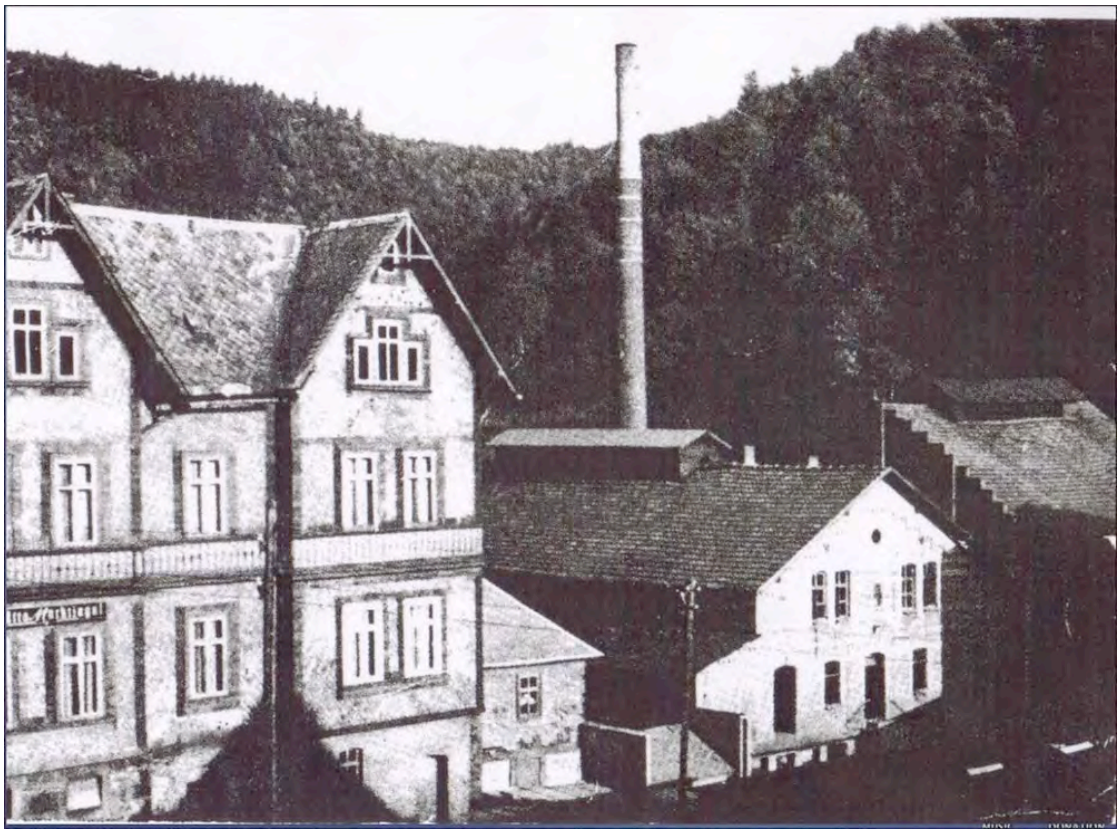
## Lauscha, Germany: Historic Images

[16] Ibid.

Lauscha, Germany, circa 1900



Lauscha, Germany, circa 1900

Glass furnaces, Lauscha, Germany

# Chapter Three

# Müller-Uri and Danz Family Tree
April 2015



Ancestor MÜLLER-URI

Unknown Male #1 MÜLLER-URI
b. abt 1660
d. Unknown
& Unknown

Unknown Male #2 MÜLLER-URI
b. abt 1690
d. Unknown

Unknown Male #3 MÜLLER-URI
b. abt 1730
d. Unknown

Unknown Male #4 MÜLLER-URI
b. abt 1760
d. Uknown
& Unknown

Ludwig MÜLLER-URI
b. 1790, Lauscha, Germany
d. Uknown
& Unkown

Unknown Female MÜLLER-URI
& Unknown Male Ancestor DANZ

Nicholas Heinrich DANZ
b. abt 1850, Lauscha, Germany
& Elizabeth Margaretta ASSENSSLER
m. 10 Jan 1769, Lauscha, Germany

Brother of Ludwig MÜLLER-URI

Anna MÜLLER-URI
b. 22 Apr 1879, Lauscha, Germany
d. Unknown
& Unknown HIPPER

Amandus MÜLLER-URI

Unknown Brother 1 DANZ
b. abt 1760
d. Unknown

Johann Michael DANZ
b. 1780, Oberweissbach, Germany
d. 1849
& Johanna Dorothea BAZ
b. 21 Apr 1785, Lauscha, Germany
m. 1815, Lauscha, Germany

Johann Peter DANZ
b. 1780, Oberweissbach, Germany
d. 1816, Lauscha, Germany
& Johanna Dorothea Sophia BAZ
b. 21 Apr 1785, Lauscha, Germany
d. 17 Nov 1849, Lauscha, Germany
m. abt 1815, Lauscha, Germany

Carl Paul Casper Gunther DANZ
b. 17 Feb 1816, Lauscha, Germany
d. 1853
& Sophia Henriette LEIPOLD
b. Unknown, Lauscha, Germany
d. 30 Oct 1853, Lauscha, Germany
m. 22 Dec 1839, Lauscha, Germany

Julius Wilhelm DANZ
b. 14 Nov 1842, Lauscha, Germany
& Louise Greiner
m. abt 1859

Septimus DANZ
& Alwine

Gottleib Theodore I DANZ
b. 22 Apr 1879, Lauscha, Germany
d. 1939, Los Angeles, California
& Anna MÜLLER-HIPPER

Gottlieb Theodore II DANZ
b. 1905, Lauscha, Germany
d. 1975, San Francisco, CA
& UNNAMED

Gottleib Theodore III DANZ
b. 1934, Los Angeles, CA
d. 1978, San Francisco, CA

Phillip or Phil DANZ
b. 1938, San Francisco, CA
& Katha

Jeanne DANZ
b. 1957, California

Janice L. DANZ
b. 1959, California

William or Willie DANZ
b. 18 Oct 1950,
San Francisco, California
& Bobbie

David DANZ
b. 21 Apr 1978
San Francisco, California
& Brianna

Anna DANZ
b. 11 Oct 1879, Lauscha, Germany
d. Unknown
& A. MEREDIK
b. Unknown, Lauscha, Germany
d. Unknown, USA

Louise DANZ
b. 1900
d. Unknown

Martha DANZ
b. 1903
d. Unknown

Erwin DANZ
b. 1906
d. Unknown

Elisa DANZ

William or Willy DANZ

Adolf DANZ

Richard DANZ
b. 1878, Lauscha, Germany
& Olgs EICHHORN
m. 27 Jul 1907, Lauscha, Germany

William DANZ
b. 13 Aug 1921, Lauscha, Germany

William Randall DANZ
b. 15 Jun 1945, Jersey City, New Jersey

Christie Alyssa DANZ
b. 1968, Kansas

Heather Jessica DANZ
b. 1973, New Jersey

Amber H. DANZ
b. 1975, New Jersey

Shannon T. DANZ
b. 1980, New Jersey