



Ferdinand Arlt's Letter to Hermann von Helmholtz

## Arlt Orders His Ophthalmoscope: a Study in Provenance.

Christopher F Blodi, MD\*

### Abstract.

In 1851 the already-famous eye surgeon Ferdinand Arlt wrote Herman Helmholtz a letter requesting that the inventor build and send Arlt one of the very first ophthalmoscopes. Reviewing the provenance of the letter provides an opportunity to describe the lives of its owners: from the writer and recipient, to a famous industrialist, and to renowned figures in German ophthalmic history.

### Introduction.

The value of a document lies not only in the entity itself, but also in the knowledge of its ownership through time. In 1851, Ferdinand Arlt was already a famous ophthalmologist. Born to a poor woodcutter, he had excelled in his studies and become Professor and Chairman of the Department of Ophthalmology at the University of Prague<sup>(1)</sup>. He wrote the following letter on October 24, 1851 (Figure 1):

*“Wohlgeboren Herrn H.Helmholtz  
Professor der Physiologie an der Universitaet  
zu Koenigsberg in Preussen*

*Geehrter Herr Professor:  
Soeben erhielt ich die Beschreibung Ihres Augenspiegels und las dieselbe mit um so mehr Interesse, als Herr Dr. Graefe aus Berlin mich bereits auf diese Erfindung aufmerksam gemacht hatte. Ihre Entdeckung ist, so wie vom wissenschaftlichen, so auch vom praktischen Standpunkte gewiss vom hoechstem Interesse und ich wuensche mir recht bald am Krankenbette damit experimentieren zu koennen. Leider bin ich in der Physik und Mechanik zu wenig bewandert, um mir einen solchen Spiegel nach den von Ihnen angegebenen Principien zu construieren; auch steht mir hierorts kein Mechaniker zu Gebote, dem ich diese Aufgabe geben koennte. Ich wende mich daher gerade zu an Sie, mit der Bitte, mir einen solchen Augenspiegel anfertigen zu lassen und mir ihn gegen Rechnung durch*

*die hiesige Buchhandlung “Credner et Kleinbub”, welche in Koenigsberg sicher accommodiert ist, oder durch die Post moeglichst bald zukommen zu lassen. Waere Dr. Graefe schon wieder in Berlin so wuerde ich mich an ihn gewendet haben; er sagte mir aber, er were erst gegen Weihnachten nach hause kommen. Sollten Sie meine Bitte nicht willfahren koennen, wo wollen Sie mir dieselbe zu Gute halten und ueberzeugt sein, dass mir jede Gelegenheit, Ihnen Gegendienste zu leisten, hoechst willkommen sein wird.*

*Achtungsvoll,  
Ihr ergebener Dr. Arlt  
Professor der Augenheilkunde in Prag Alleengasse #1370  
Am 24. Oktober, 1851”*

### A translation of the letter is:

*“To the Honorable H. Helmholtz  
Professor of Physiology University of Koenigsberg in Prussia*

Honorable Professor:

I just received the description of your ophthalmoscope and read it with great interest, especially since Dr. Graefe of Berlin had already drawn my attention to this invention. Your discovery is of greatest interest both from a scientific, as well as from a practical point of view and I just wish I could experiment with it soon at the bedside. Unfortunately, I am not trained enough in physics or mechanics to construct such an instrument according to your principles; neither do I have a mechanic available here to whom I could entrust this construction.

\*Author’s addresses see p.372

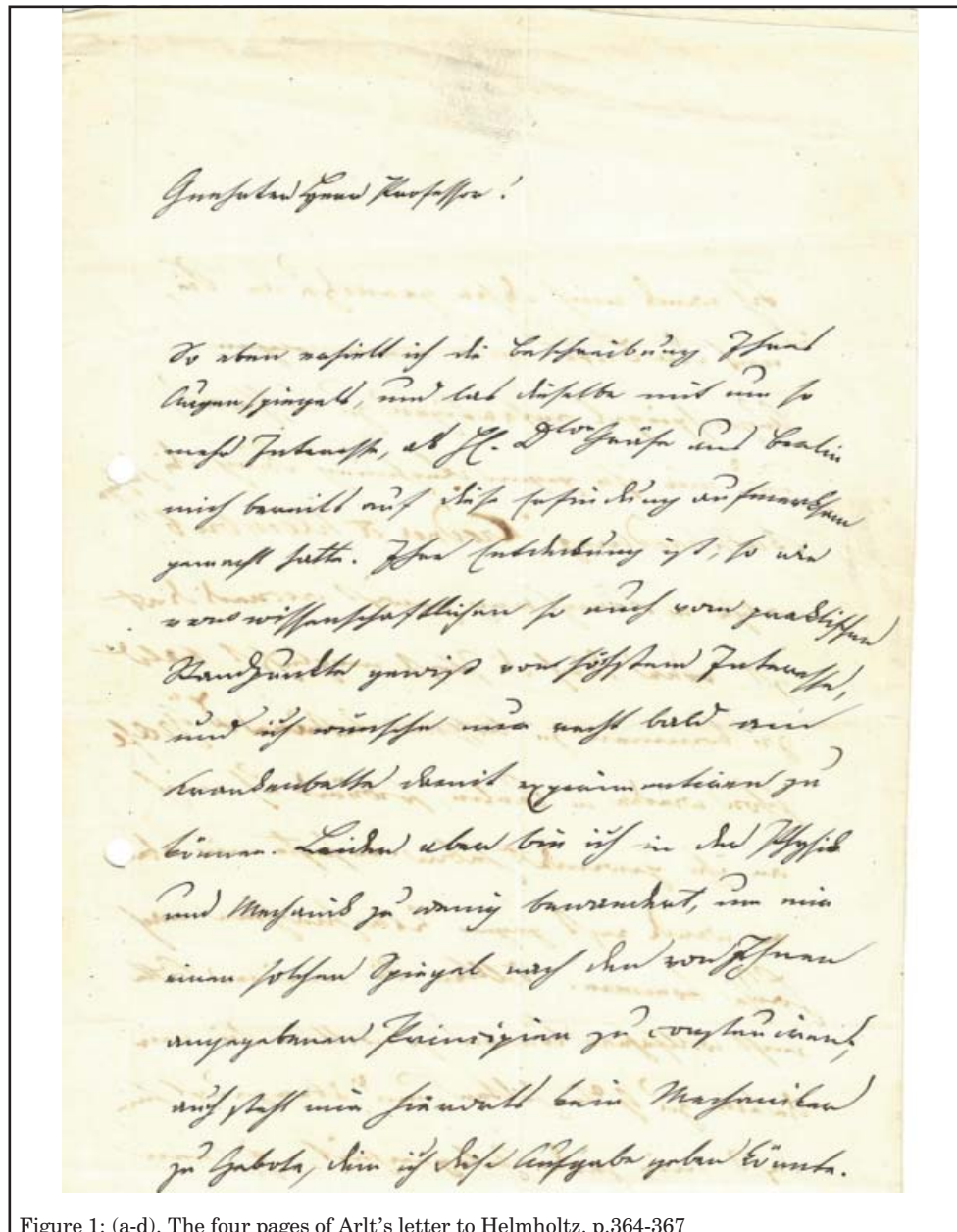
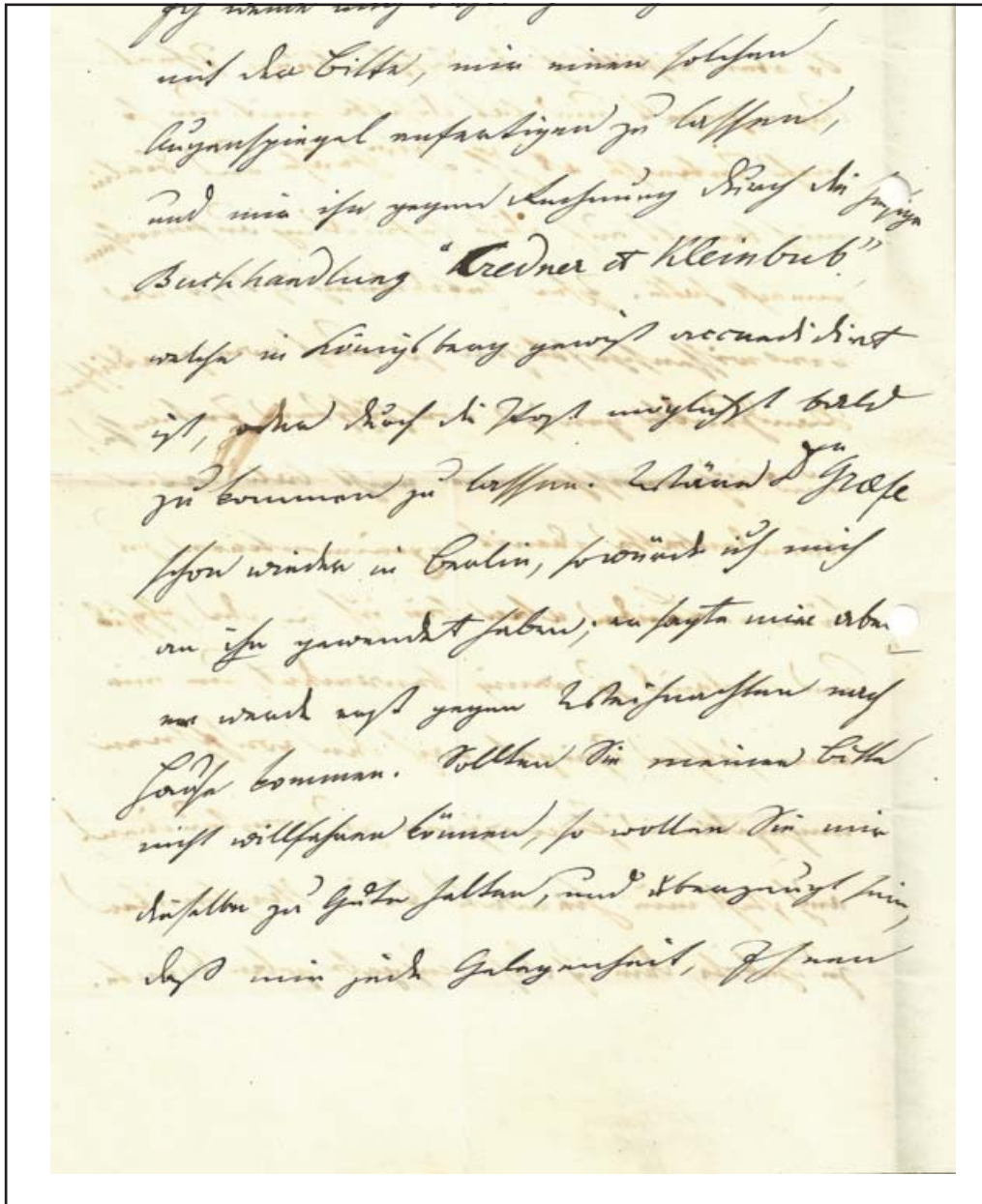


Figure 1: (a-d). The four pages of Arlt's letter to Helmholtz. p.364-367

I therefore turn directly to you with the request to build such an ophthalmoscope for me and to put it on the account of the bookstore "Credner et Kleinbub", which certainly has a branch office in Königsberg. You could also send it to me by mail in the near future. If Dr. Graefe had returned to Berlin I would have turned to him, but he told me that he would not return home until before Christmas. If you cannot fulfill my request please keep me in your favor and remain convinced that any occasion to reciprocate your service will be most welcome.

Sincerely, Yours  
 devoted, Dr. Arlt  
 Professor of Ophthalmology in Prague  
 Alleengasse #1370  
 October 24, 1851"

There is no way to know exactly when Arlt received his ophthalmoscope from Helmholtz. Helmholtz actually received quite a few orders for ophthalmoscopes. Six weeks after Arlt wrote his letter, on December 6, 1851, Helmholtz wrote his father: "I have received here 18 orders for an ophthalmoscope so that my mechanic will make quite a profit. Among them are 4 to Holland, 1 to Paris, 1 to London...".<sup>(2)</sup> Thus, one can surmise that Arlt ordered one of the very first ophthalmoscopes. He recalled receiving the ophthalmoscope in the fall of 1851 and not knowing exactly how to use it. He credited Professor Christian Georg Theodor Ruete of Leipzig



with teaching him how to use the instrument. By 1855, Arlt often used daylight funneled through a small opening in a window of the clinic for illumination <sup>(3)</sup>.

Arlt continued to make his mark in anterior segment diseases and surgery. Indeed, Hirschberg wrote: "Arlt did not require that his students know ophthalmoscopy, his assistants gave regular courses in that examination method". Hirschberg added that "Arlt immediately learned ophthalmoscopy, but he did not contribute anything to ophthalmoscopic investigations, -in the 50's when everybody who had a large patient material and

open eyes could easily make new discoveries...it was possible that this was not the main interest of his talent" <sup>(4)</sup>.

From 1856 until his required retirement at age 71, Arlt was professor and head of Ophthalmology at the University of Vienna. The Emperor of Austria gave him a hereditary title ("von") for his scholarly life. Arlt died in 1886 from complications of a stroke <sup>(5,6)</sup>.



Ich wünsch' mich sehr zu sehen an Sie,  
 mit der Bitte, mir einen solchen  
 Lehrsatzbogen auszubringen zu lassen,  
 und mich sehr zu empfehlen Sie auf die  
 Sachhandlung "Gredner et Kleinbuch"  
 welche in Kürze hier gewiß verkauft wird  
 ist, und Sie auf die Möglichkeit bedacht  
 zu kommen zu lassen. Ich bin  
 schon wieder in Berlin, und ich  
 an Sie gewandt habe, so bitte mich  
 was auch auf die Angelegenheiten mich  
 lösen können. Willen Sie mir  
 mich willig sein lassen, so wollen Sie mich  
 auf alle zu Gute halten, und ich  
 das mich sehr zu empfehlen, Ich

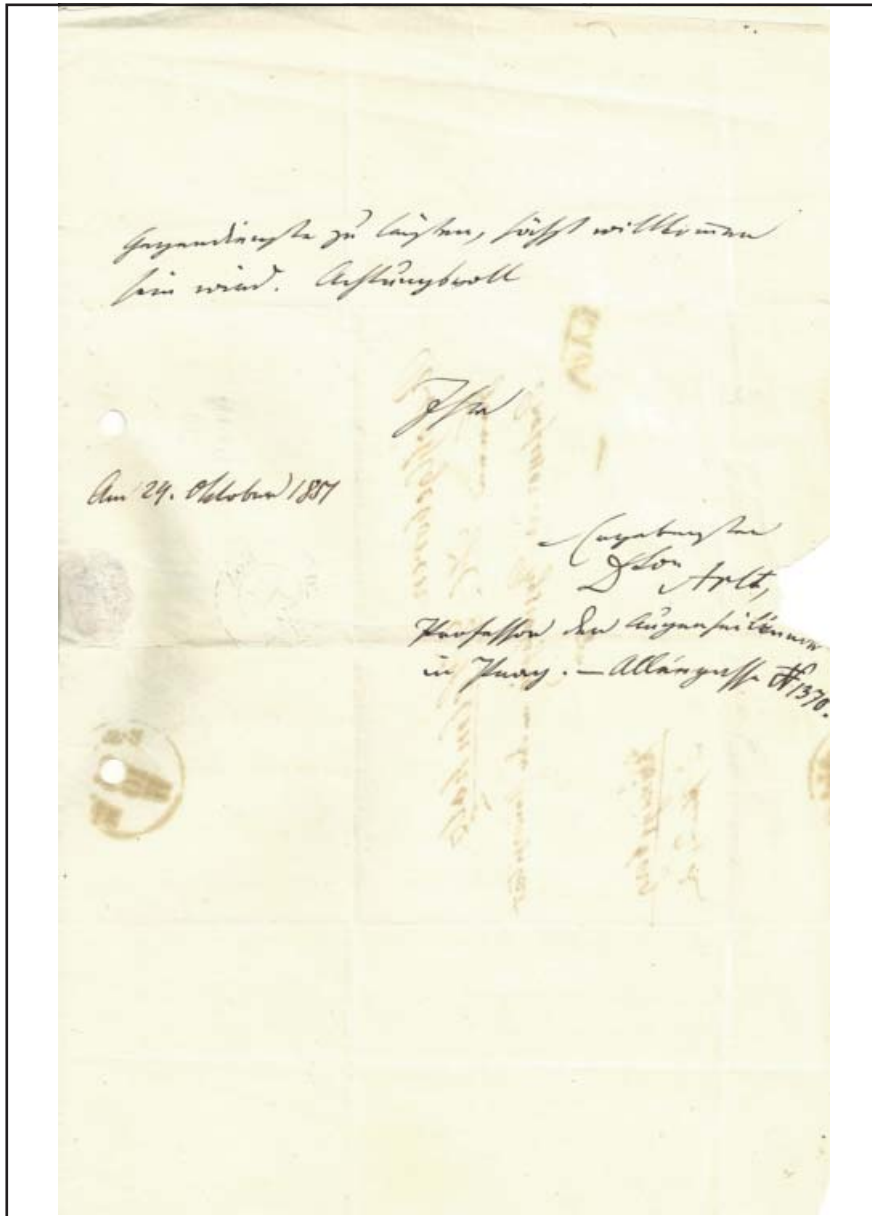
### Ellen Helmholtz.

Arlt's letter remained in the hands of the Helmholtz family. After Helmholtz's death in 1894, the letter apparently came into the hands of his daughter, Ellen. She was born in 1864 after her widowed father had remarried in 1861. In 1884, Ellen married Arnold von Siemens, the son of the engineer and industrialist Werner von Siemens. Arnold von Siemens (1853-1918) became a co-owner of the Siemens Company in 1882. He had run a subsidiary firm in Vienna and started the Siemens USA branch in Chicago. It is not surprising that the two met and were married, as their fathers were very good

friends. Helmholtz was the first director of the Physico-Technical Institute that Werner von Siemens had started in 1877 <sup>(7)</sup>. Ellen von Siemens showed an interest in the historical value of letters when she edited a book of her mother's letters: *Anna von Helmholtz: Ein Lebensbild in Briefen* ("A Life-portrait in Letters") <sup>(8)</sup>.

### Richard Greef.

Presumably, Werner and Ellen von Siemens were part of Berlin's high society. It would not be surprising to think that their ophthalmologist would have been one of the most prominent in the city at that time:



Richard Greef. At some unknown time, the Arlt letter was given to Professor Greef.

Richard Greef was born in Bonn in 1862 where his father was Professor of Zoology. Greef studied ophthalmology in Berlin under Professor Karl Schweigger, who specialized in microscopic pathology of the eye, made contributions in strabismus, and published a book on ophthalmoscopy. Greef was appointed the director of the ophthalmic department at Charité Hospital in Berlin in 1897. The main eye clinic at the University of Berlin had become too large for that hospital and had moved to a different location, leaving a very small department behind at

the main hospital. Greef built this up through the years. He was one of the first to find the conjunctival inclusion body found in trachoma and was one of the first to write a textbook on the pathology of the eye. Greef was well-known for creating moulages (wax models) of external eye diseases<sup>(9)</sup>. He retired at the mandatory age of 65 in 1927 and lived in Berlin until his death in 1938.

Greef was well known for his collection of eyeglasses and spectacles and also apparently collected ophthalmoscopes. Some of his collection was shown at the von Graefe Museum in Heidelberg but most was shown in the Medical-Historical Museum in Berlin.

PROF. DR. MED. WOLFGANG JAEGER

D-6900 HEIDELBERG  
MOZARTSTRASSE 17a  
TELEFON 06221/473726

21. I. 90

Provenienz des Briefes von  
Art an H. v. Helmholz,  
in dem er ihm übersendung  
des neu entdeckten Augenspiegels  
linet :

Die Tochter von H. v. Helmholz  
Frau v. Siemens hat den Brief  
an Prof. Greef (Berlin) aus dem  
Nachlass ihres Vaters übergeben.  
Greef gab den Brief weiter an  
seinen Schüler Prof. Reichling  
(Leipzig). Von der Witwe  
an Prof. Reichling habe ich auf  
Anweisung ihres Mannes den Brief

erhalten als Dank für authen-  
tische Bewertung in seinen lebt-  
ten Lebensjahren.

Da keines meiner Kinder Arlt  
der Augen heilkunde Angewendet hat,  
lege ich nun diesen Brief  
in die Hände von

F. Bloch

als Zeichen unserer freunds-  
chaftlichen Verbundenheit

Wolfgang Jaeger.

Figure 2: Jaeger's 1990 letter.

He acquired memorabilia pertaining to von Graefe and edited a book on von Graefe's letters to the friend of his youth, Adolf Valdau, in 1907. Greef published a book on Schweigger's lectures on the use of the ophthalmoscope in 1895 and wrote a chapter on diseases of the optic nerve and retina for an ophthalmic textbook in 1908<sup>(10-12)</sup>.

It is logical to think that Arnold and Ellen von Siemens knew of Greef's interests

and felt that the Arlt letter would be an appropriate gift.

#### Walter Reichling.

The Arlt letter was next found in the hands of Professor Walter Reichling, who had been a student of Greef's. It is unknown when Greef transferred the letter.

Walter Reichling was born in 1894 in Cologne. His medical training was delayed by



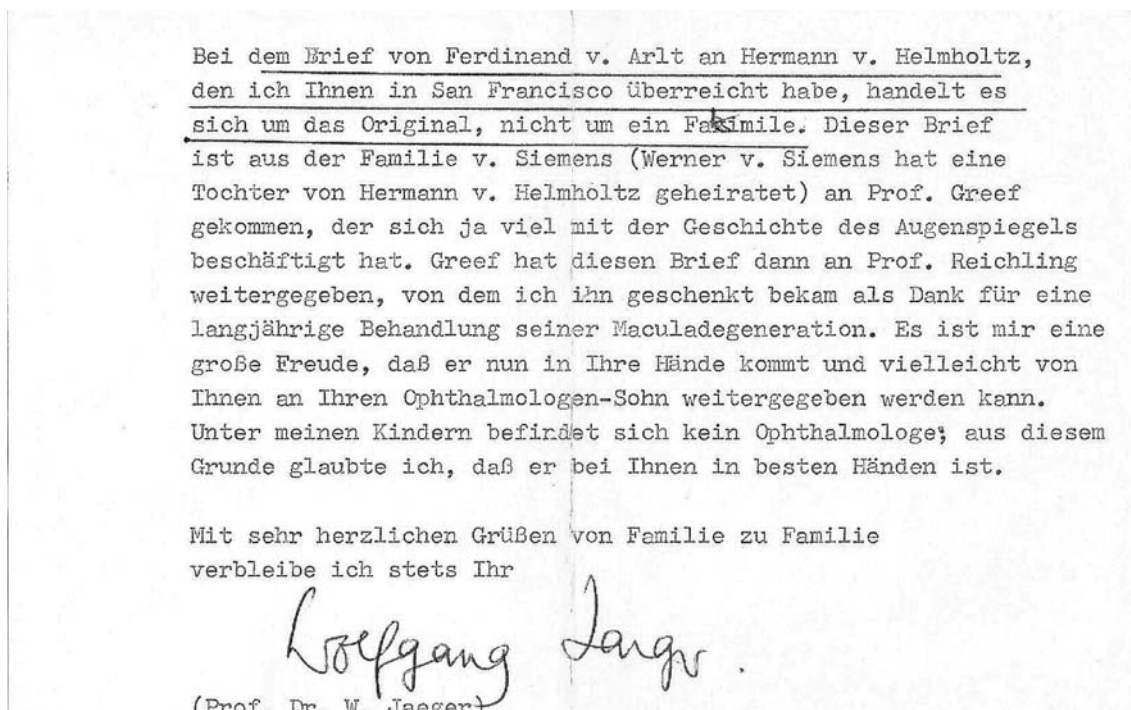


Figure 3: Jaeger's undated addendum.

service in the German Army in World War One. After receiving his medical degree at the University of Vienna in 1924 he trained in ophthalmology at the Charité Hospital. The first three years of his training there were while Greef was still chairman. Reichling stayed at Charité after finishing his training, moving up the ranks. He again served in the German Army during World War Two for one and one-half years. Reichling was named Professor and Chairman at the University of Wuerzburg in 1951, a position he held until retiring in 1964. The search committee in Wuerzburg noted that Reichling had never been a member of the National Socialist Democratic Workers Party (Nazi) or any of its affiliates<sup>(13-14)</sup>.

Reichling specialized in ophthalmic pathology and orbital disease. He was apparently a mediocre surgeon, but this may have related to a hand injury suffered in World War One. Reichling was said to be highly cultured. His life interest seemed to revolve around music. In Berlin, he had already started a "Reichling Choir" and created the same when in Wuerzburg. The choir concentrated on works by Bach and performed at various university functions and at the centennial celebration of the German Ophthal-

mologic Association in Heidelberg<sup>(14)</sup>. Indeed the current Professor and Chairman of Ophthalmology at Wuerzburg, Franz Grehn, noted that as a child growing up in Wuerzburg he knew of Reichling "more as a choir conductor for Bach's St Matthew Passions than for ophthalmology" (written communication, 2010).

In later years, Reichling apparently suffered from age-related macular degeneration. He was cared for by Professor Wolfgang Jaeger in Heidelberg. After Reichling died in 1972 his widow gave the Arlt letter to Jaeger in gratitude for the care given.

### Wolfgang Jaeger.

Wolfgang Jaeger was born in 1917 in a family of numerous physicians. He studied history at various German universities. In World War II, Jaeger fought in a Mountain Division of the German army, seeing action in both France and on the eastern front. He was wounded in the hip while fighting in the Soviet Union and during his lengthy convalescence decided to become a physician. He completed his studies before the end of the war and was again sent to the front in Italy.

Of special note is the interaction between Jaeger and the “White Rose”, an anti-Nazi student movement in Munich. In fact, he was present at the 1943 trial when most of the leaders of the “White Rose” were sentenced to death, and he interacted with the convicted on their way out of court. Jaeger’s interaction with these students, most of whom were executed for crimes against the state, remained in his memory forever and was displayed in some of his writings and in a memorial service <sup>(15-16)</sup>.

After the war, Jaeger trained in ophthalmology at the University of Heidelberg. He had special interest in color vision defects and various forms of optic atrophy. This led him into ophthalmic genetics. After some time in Essen he returned to Heidelberg as chairman. He served as editor for the annual publication of the German Ophthalmologic Association for many years, and for his service was named an honorary member. Jaeger retained his interest in history, building up a collection concerning von Graefe for the Association. He published on various themes including Rembrandt’s painting of the healing of the blind Tobias. Jaeger was well-known internationally and was an honorary member of numerous national ophthalmic associations, including the American Academy of Ophthalmology. He became an emeritus professor in 1986 <sup>(16-17)</sup>.

### The Blodi Family.

In 1990 Jaeger wrote a note concerning the Arlt letter to Frederick Blodi, MD (Fig.2). This note can be translated as:

*“Prof. Dr. Med. Wolfgang Jaeger  
D-6900 Heidelberg  
Mozartstrasse 17a Telephone 06221/473726*

*January 21, 1990*

*Origin of the letter from Arlt to H.v.Helmholtz, in which he asked to send him his newly discovered ophthalmoscope:*

*The daughter of H.v.Helmholtz, Mrs v. Siemens, gave the letter to Prof. Greef (Berlin) from the legacy of her father. Professor Greef then gave the letter to his pupil, Prof. Reichling (Wuerzburg). I received the letter from the widow of Prof. Reichling. Professor Reichling*

*had asked in his last will that the letter be given to me as thanks for taking care of him in his last years.*

*As none of my children have turned toward ophthalmology, I now transfer this letter into your hands, F. Blodi, as a sign of our friendship.*

*Wolfgang Jaeger”*

Sometime later Jaeger sent a typed addendum (Fig. 3) which can be translated as:

*“The letter from Ferdinand v.Arlt to Hermann v.Helmholtz which I gave to you in San Francisco, is an original and not a facsimile. This letter came from the family v. Siemens (Werner v.Siemens married a daughter of Hermann v. Helmholtz (sic)) who passed it on to Professor Greef, who was very much interested in the history of the ophthalmoscope. Greef then turned the letter over to Professor Reichling, who gave it to me as a present in gratitude for the long-time medical treatment of his macular degeneration. It gives me great pleasure that the letter now comes into your hands and can perhaps be passed on to your son the ophthalmologist. None of my children became an ophthalmologist and for this reason I thought that the letter would be in the best of hands with you.*

*With best regard from my family, I remain always yours*

*Wolfgang Jaeger (signature) (Prof. Dr. W. Jaeger)”*

The letter was transferred to me shortly thereafter and has remained in my office at my clinic in West Des Moines, Iowa. The letter was initially in a glassine envelope, folded and protected in a hardcover book-like case. Presumably the letter was originally sent in a stamped envelope. The Austro-Hungarian Empire began requiring postage stamps on mail beginning on June 1, 1850 almost one and one-half years earlier <sup>(18)</sup>. At some point, one of the letter’s owners apparently punched two holes in the side of letter, perhaps to allow it to be kept in a notebook with other historical documents. Recently the letter was framed with protective glass. However, the framing allows only the cover and first page to be displayed. The future home of the letter is uncertain –should it remain in private hands or perhaps be displayed in a

museum or library associated with a university ophthalmology clinic?

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### Author´s contacts:

Christopher F. Blodi, MD  
 Iowa Retina Consultants, Inc.  
 1501 50th Street, West Des Moines, IA  
 USA  
 cblodiirc@gmail.com