

OTTOMAR JARECKI - SCHOLAR AND INVENTOR

by

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PREFACE

This year, 1976, we celebrate the Bicentennial of the United States and the Centennial of the American Chemical Society. The American Chemical Society (ACS), a national organization of chemists and chemical engineers, was founded in New York City on April 6, 1876. The Erie Section of the American Chemical Society was granted a charter from the ACS on April 9, 1923. Its forerunner was the Erie Chemical Society. Dr. Paul H. Henkel of Continental Rubber Works, other chemists in Erie industries and chemistry teachers from local high schools were instrumental in the founding of the Erie Section. To commemorate the Centennial of the American Chemical Society and the Bicentennial of the United States, the Erie Section of the ACS formed a Centennial Committee to collect history on the teaching and practice of chemistry in Erie. The following essay is a portion of the information which has been assimilated by the Centennial Committee.

INTRODUCTION

Carl W. Jarecki, paternal grandfather of the subject of this article, was born in Posen, Prussia, Dec. 24, 1803.¹ At that time during the period of his boyhood, significant political changes were taking place in Prussia and elsewhere in Europe. From 1799 to 1814, the history of France and of all Europe was so closely tied to the career of Napoleon Bonaparte that these years have been called "The Era of Napoleon."² In vain, against Napoleon's Continental System, Great Britain organized and subsidized a Third Coalition with Austria, Russia and Sweden against France. Prussia had not originally joined the Third Coalition, but now its King Frederick William III entered the war and sent an army under the aged Duke of Brunswick against Napoleon. The Prussians were defeated at Jena (October 14, 1806) and the Prussian military prestige evaporated.³ Prussian Poland was torn away and formed into a Grand Duchy of Warsaw. Napoleon's power was at its peak in 1808 but then was on the wane and ended at Vienna in the autumn of 1814. There, a so-called Congress of Vienna assembled and hammered out the settlement.

The **Quadruple Alliance** of the "Big Four" - Austria, Prussia, Russia and Great Britain - under the guidance of Prince Clements Metternich, chief minister of Austria, provided a temporary bulwark against forces of disorder and change. The period from 1815 to 1848 has usually been called the "Era of

¹Correspondence from Charles J. Palmer to George L. McClelland, November 26, 1975.

²J. H. Hayes, Marshall Whitehead Baldwin and Charles Woosley Cole, *History of Europe*, MacMillan Company (1950), p. 708.

³ *ibid.*, p. 727

Metternich” for, during those years, the Austrian statesman was a central figure in Europe.⁴ Europe was undergoing restoration with continuing conflict between conservatives and liberals.

Carl Jarecki emerged from his adolescence as a skilled engraver, silversmith and goldsmith. On Sept. 22, 1822, he met and married Wilhelmina Wibczinka. On August 8, 1824, their first child, August, was born. Nine more children were to follow: Henry (1826), Caroline (1828), Gustav (1829), Frederick (1831), Louise (1833), Emma (1835), Charles (1837), Herman (1839), and Theodore (1842).^{5,6} August was educated in the local Posen schools and learned his father’s trade. Continual unrest in Posen and all of Prussia precipitated the Jarecki family to consider moving to America. Many Prussians were immigrating to America and several were choosing Erie as their new home town. August, the oldest child of Carl Jarecki, was twenty-three when he was elected to leave his homeland and settle in Erie, Pennsylvania.

August wished to come to America on the first steamboat plying between Bremen or Hamburg and New York. Transatlantic steamship service was inaugurated on Saturday, July 19, 1840 when the **Britannia** steamed into Boston’s “Historical Harbour.”⁷ In 1847, the Hamburg Amerikanische Paketfahrt Aktien Gesellschaft (known thereafter either as the Hamburg-America or by its initials, HAPAG) put a fleet of six 700-ton sailing ships into service on the Atlantic carrying 20 first class and 200 steerage passengers, averaging 40 days westbound and 29 days on the homeward run.⁸ August Jarecki booked passage on one of these ships, but when his mother heard of it, she said that she was not going to send her son on a trial trip. So, he cancelled his booking on the steamship and had to travel on a sailing ship.⁹

On the western side of the Atlantic, during the same time span as indicated above, Erie, Pennsylvania was being settled. In the year 1795, Erie was first permanently settled by Colonel Seth Reed and the town was formally laid out. In 1800, Erie was designated the seat of Justice for the County of Erie. It was not until 1803 that the county was permanently organized and the first court was held by Judge Moore in a log house near the corner of Second and Holland Streets.¹⁰ Erie was incorporated as a borough in 1805. Its government consisted of a Burgess and Council. From this period, for many years, the town progressed but slowly. Its population, however, increased at a more rapid pace.

Erie, Pennsylvania, in 1847, was a growing community. It was still a borough and Thomas H. Sill was its Burgess. August Jarecki lived at First and Myrtle Streets* and set himself up in the jewelry business. After August had

⁴ *ibid.*, p. 731

⁵ Benjamin Whitman, **Nelson’s Biographical Dictionary and Historical Reference Book of Erie County** (Erie: S. B. Nelson Pub. Co., 1896), pages 614, 615 and 870.

⁶ Correspondence with Charles J. Palmer

⁷ Warren Tute, **Atlantic Conquest**, Little, Brown & Co., (1962) page 55.

⁸ *ibid.*, page 73.

⁹ Charles A. Curtze, Oral History, interviewed by P. R. Guevin, February 4, 1976, on deposit at Mercyhurst Archives.

¹⁰ James Sill, **City Directory**, 1853-54, pages 4 and 5.

* The first **City Directory**, 1853-54, indicates this as his address. Descendants believe he lived on East Sixth Street between French and Holland Streets.

earned enough money to bring them from Posen, Prussia to Erie,[‡] his wife, the former Julie Pelk,[†] joined him in 1849 with August's brother, Henry. They all worked hard to earn enough money from the jewelry business to bring their father, mother, and remainder of their sisters and brothers to Erie in the early 1850's.

August soon had his combination store and house built at 622 State Street. This was a grand building in the Victorian manner. The store, Jarecki Brothers Jewelers, was on the first floor. In the front of the second floor was the living room which had three windows which opened onto a New Orleans type balcony making it easy for the Jareckis to view parades and other activity on the street. Also on the second floor were the dining room and kitchen. The third floor housed the bedrooms. In the center of the house was a skylight similar to that in the Palace Hotel in San Francisco, which allowed natural light to show through the two upper floors. A feature in the living room was a rosebox Steinway grand piano which still exists today.

Church activities were an essential part of the life of the Jareckis. The Evangelical Union of Prussia was a combination of two Protestant church bodies in Prussia, Reformed and Lutheran. The church had grown tired of the doctrinal controversies in minor and unessential matters. But, instead of forming one united Protestant communion, the result in many German states was three - Reformed, Lutheran and Evangelical.

There were few German Reformed Lutherans in Erie. Some German Evangelical churchgoers and a sizeable group of German Lutherans, many who were dissenters from the Evangelical Union principle, worshipped together at St. John's German Evangelical Lutheran Church, Peach Street at West 23rd Street. Those holding to the Evangelical position, like the August Jareckis, were persuaded that this congregation was committed to the Union principle, desired by King Frederick William III. Consequently, their dissatisfaction led to the conversions among themselves, their ultimate withdrawal from St. John's Church and, 1850, the founding of an Evangelical congregation.¹¹

The German St. Paul's United Evangelical Church was formed at a meeting held in December, 1850. The initiators included the names of Gustav Jarecki and Frederick Curtze. Soon afterwards, other names, such as August Jarecki, were added. This new congregation accepted the invitation to hold their services of worship in the chapel in the First Presbyterian Church at Fifth and Peach Streets until the construction of their new church was complete. The congregation purchased from the Charles M. Reed estate a piece of property in the middle of the 1000 block on Peach Street which was convenient to the homes of the influential sponsors of the congregation.

OTTOMAR'S BOYHOOD YEARS

Into this strong religious family, Ottomar Heinrich Jarecki was born on August 22, 1850 to August and Julie Jarecki. He was baptized, probably at St.

[‡] Church records show her name spelled as "Julie" and as "Julia". The early records show it spelled the former way but those records after 1855 show it as "Julia". The Curtze family records show it spelled as "Julie".

[†] It is believed that Julie Pelk married August Jarecki in Prussia but no record has been found. It is doubtful that he met her in Erie since there was no Pelk family listed in the *City Directory* for that period. Evidence seems to point to her coming to Erie with brother-in-law, Henry, after August established himself in Erie.

¹¹ Richard E. Kneller, *St. Paul's Church, A History*, a private publication, 1972.

John's Lutheran Church at 23rd and Peach Streets or the German Evangelical Lutheran Church (Salem Church) at the corner of West 12th and Peach Streets, on December 1, 1850.* Later, August and Julie Jarecki became parents of the following Olga, born on August 7, 1852; Amanda Emma, born on July 3, 1854; Antonia Caroline, born on October 27, 1856; Emil, born on June 23, 1859; and Edwin, born on May 3, 1866.

In 1848, the "East Ward" School building was constructed on the corner of 7th and Holland Streets, the site of Erie's first school house and present location of Jones School. The School Law of 1854 established the office of County Superintendent of Schools to be elected by a convention of the school directors of each county. This was the educational reform desired beyond all others by friends of education. The Erie County school directors elected William Armstrong of Wattsburg as its first County Superintendent. The public schools of Erie as well as all county public schools were under Armstrong's general supervision through 1860.¹² In 1855, the East Ward Board decided to build a large school, similar to those constructed in large Canadian cities. In spite of objectors, the directors erected the new school, School No. 2, on the corner of East 7th and Holland Streets. It was finished in 1860 and was considered as a model of its time. Ottomar Jarecki, a hard working, studious boy who was full of ideas, most likely attended this school. On June 26, 1866, the Erie High School was established and occupied the upper story of School No. 2. The high school, referred to as the "People's College" by its friends was opened in 1866 with J.M. Wells as principal and an enrollment of 166 scholars.¹³

The high school, as it was established and described in the 1868 book of Rules and Regulations consisted of three years: Junior year, Middle year and Senior year. Each year was divided into three terms: fall term, winter term and spring term. There were three courses available for these scholars: English course, Classical course and Eclectic course. The English course was suited for those who were not expecting to go to college. The Classical course was organized for those students who intended to enter college. The Eclectic course was a combination of both. Chemistry was available in the fall term and the winter term of the Senior year of the English course. Other subjects included rhetoric, geometry, history and English. Upon graduation, three diplomas were awarded: Simple, Diploma of Honors and Diploma of Distinction. At the beginning of 1869, a high school newspaper was established. **The High School News** had G.L. Douglas and O.H. Jarecki as co-editors and was a real defender of Erie High School and criticized its private counterpart, the Erie Academy. All features to be published in the newspaper were to be sent to Ottomar Jarecki's residence at 622 State Street. August Jarecki was a regular advertiser. Uncle Henry Jarecki and cousin Alfred K. Jarecki were occasional contributors of articles. Ottomar took over ownership and remained on as Editor through May 1871.

By the end of spring, 1869, graduation time had arrived and the 166 original scholars had dwindled to two: Ottomar and Adella I. Brindle.* These two

* Records at St. Paul's Church give the date of his birth and baptism but do not indicate where the baptism took place.

¹² Frank S. Anderson, **History of the Public Schools in Erie**, private publication, 1970, pages 10 and 12.

¹³ John Elmer Reed, **History of Erie County Pa.**, Topeka: Historical Publishing Company, 1925, pages 794-796.

* They did not enter high school until the second year of its existence in September 1867. They were promoted to the second year class by December 1867. When they graduated in 1869 they had only been in high school for two years.

graduates received Diplomas of Honor. Ottomar's graduation speech was a mathematical discussion of "Squaring The Circle". He and Adella returned to the high school to continue their education. In 1870, they were both awarded Diplomas of Distinction. Eight other students graduated with them that year from the new high school. Ottomar and Adella were considered as post graduates that year.

One of Erie's leading newspaper companies, The Herald Printing and Publishing Company, Ltd., commissioned Josh Ramsdell, a pen and ink artist, to illustrate Erie buildings. In 1888, The Herald Printing and Publishing Company produced a Souvenir of Erie which included his illustrations. Figures 1, 2 and 3 are copies of his illustrations.

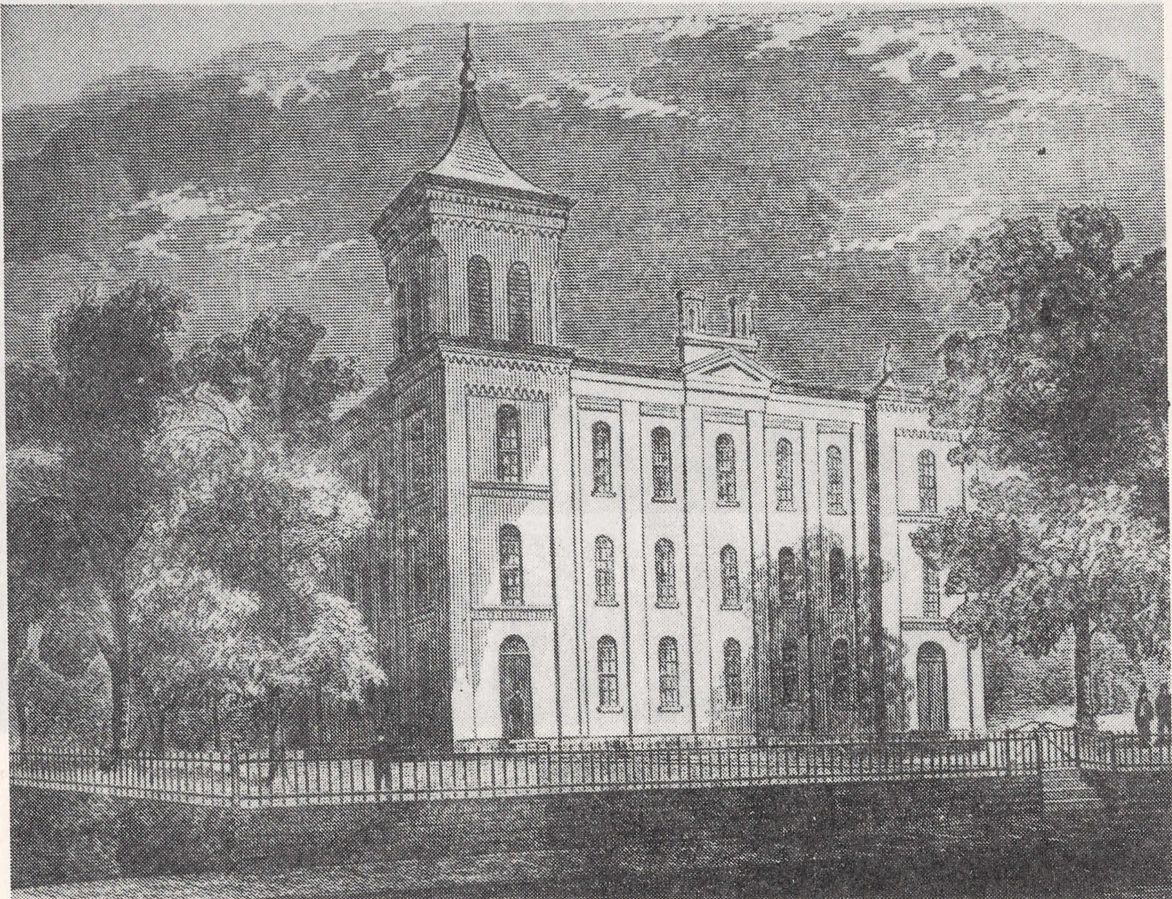


Figure 1

Figure 1 shows the Erie High School which was located on the corner of East Seventh and Holland Streets. The iron fence which surrounded the property is clearly visible. This School No. 2 housed the primary grades on the first two floors and the Erie High School occupied the upper story.

ADULTHOOD OF OTTOMAR

Upon graduation from high school in 1870, Ottomar commenced to work as a jeweler in his father's store at 622 State Street. There were two Jarecki jewelry stores in Erie from about 1865 to 1905. August Jarecki Jewelers, 622 State Street, was established in about 1848 by August Jarecki. In Figure 2 is shown the store which August Jarecki had built in the early 1850's. Clearly visible is the sign for the Boston Store at 718 Street.



Figure 2

The store was originally called Jarecki Brothers in which Gustav Jarceki was co-owner with August Jarecki. They remained as partners until 1869 when Gustav was appointed to the U.S. Council at Augsburg, Bavaria by President Ulysses S. Grant. Jarecki Jewelers, 728 State Street, was originally established as a joint venture between Herman T. Jarecki and his brother-in-law, August Drodzewski, who married Emma Jarecki on December 1, 1853. Upon the death of August Drodzewski, in 1865, Herman T. Jarecki became the sole owner. It is this jewelry store which has lasted, at least in name to the present time.

In his never ending desire to seek knowledge and work in challenging areas, Ottomar returned to the Erie High School as a special teacher of chemistry. In the 1875-76 year, the School Board embarked on an experiment to merge the Erie High School with the private Erie Academy. In Figure 3 is shown the Erie Academy building at the corner of Peach and Ninth Streets.

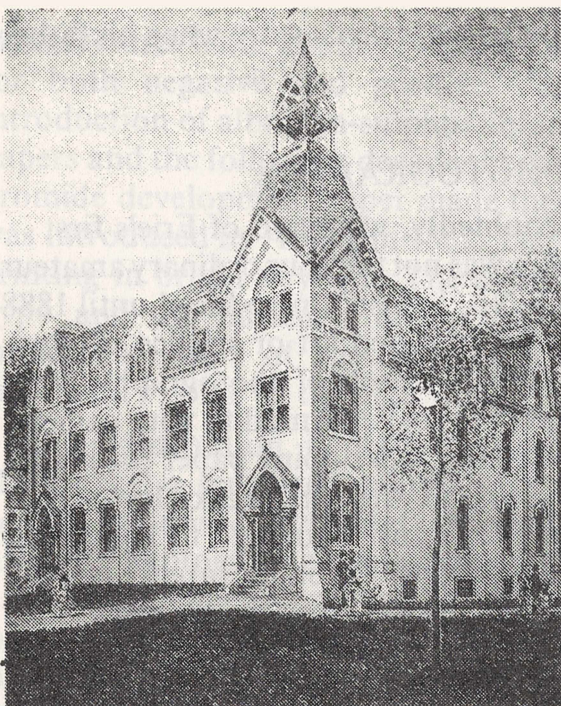


Figure 3

It was hoped that this merger would improve the education in Erie on the high school level and remove the rivalry which existed between the two schools. In that year, the Erie Academy building at the corner of Peach and Ninth Streets was used to house the Erie High School. The next year, the School Board reversed its decision and returned the high school to School No. 2 on the corner of Seventh and Holland Streets. Ottomar returned to his father's business.

Henry Jarecki, Ottomar's uncle, was one of Erie's most prominent businessmen at this time. In 1849, two years after August came, Henry located in Erie. He immediately applied his trade and established a brass works on State Street between

Eighth and Ninth Streets. This was a small shop with tread power and capable of melting about 15 lbs. of brass at a time. Yet, from this small shop, was to grow the gigantic institution which was to last for almost a century, Jarecki Manufacturing Company. During the early days of the company, success depended almost entirely on the persistent energy and shrewd business methods of Henry. Since Ottomar was fascinated by his uncle's business, which was a short five-block walk from his home, Ottomar worked as a part-time pattern maker for Jarecki Manufacturing Company. From this relationship, Ottomar acquired an outstanding understanding of machinery and its capabilities. Upon his return to Erie in 1872, Gustav Jarecki was a great help to Ottomar in the jewelry business. In the Prussian military schools where he was educated, Gustav learned the trade of a watchmaker. He was able to improve Ottomar's talents as a watchmaker and a craftsman for Jarecki Jewelers, 622 State Street.

Early in the 1880's, Ottomar met Miss Amelia von Buseck, daughter of a wealthy Millcreek farmer, Lewis von Buseck. He was attracted to her and they were married in 1883. Ottomar built a house at 129 East 7th Street (the house number was changed in 1892 to 125). This house was next door to his sister, Amanda Emma Jarecki, who had married Charles A. Curtze on July 3, 1879. Ottomar's house was built to suit his needs. The basement housed his equipment for melting gold and silver ingots and drawing these precious metals into wire. The first floor consisted of their living room, dining room, and kitchen. On the second floor, Ottomar had constructed a completely equipped workshop with storage facilities, a complete chemical laboratory similar to the equipment that he had in high school, a dark room, a developing room, a machine shop, and wood working shop complete with treadle lathes, circular and band saws that he had built himself. He also had one guest room on the second floor which was used as a varnishing room for his furniture refinishing. This house was convenient to his father's store, an easy two-block

walk away. Ottomar became the manager of his father's store when his father retired at an early age.

OTTOMAR THE PHOTOGRAPHER

Amelia and Ottomar Jarecki, undoubtedly, were two of Erie's first photographers. Photography in the 1880's was not for your ordinary amateur photographer. George Eastman's Kodak No. 1 wasn't introduced until 1888 and still photography was somewhat a complicated art or science. August Jarecki Jewelers, Ottomar's store, handled all aspects of photography. They sold lenses, shutters and other components to make or modify your camera. Coated negative glass slides for picture taking, developing paper for prints, and processing of these items were available at August Jarecki Jewelers.

As stated before, Ottomar Jarecki had his house equipped to handle the photography business under the best conditions. Ottomar Jarecki worked with photography during the transition from the wet process developed in 1847 by Niepce St. Victor using egg white (albumen) containing potassium iodide which was coated on glass and sensitized by bathing in silver nitrate immediately before exposure and exposed in the wet state to the dry plate process developed by Frederick Scott Archer in 1851 in which a solution of potassium iodide in collodion (a solution of alcohol-ether of a material called pyroxylin or cellulose nitrate, which was first produced by Schoenbein in 1846) was coated on glass. This solution was allowed to set and then soak in a silver nitrate solution thus forming silver iodide in the collodion layer, the excess silver nitrate acting as a sensitizer. When this collodion layer was allowed to dry, it became impervious to processing solutions and thus the plates had to be exposed and processed immediately after manufacture, while in the wet state. They were developed in a ferrous sulphate solution, intensified and fixed in potassium cyanide.¹⁴

The first successful attempt with the dry collodion plate was made by Dr. J.M. Taupenot in 1855. This required an exposure of 30 seconds. The first successful use of gelatin in photographic emulsions is ascribed to Dr. Maddox who described his experiments in 1871. This was the forerunner of modern emulsions and caused the downfall of the wet collodion process. The latter, however, was so well established that several years elapsed before the dry plate gained ascendancy. Gelatin dry plates could be made at leisure and stored for future use. A photographer such as Ottomar Jarecki, skilled in emulsion making, could now produce more plates than he required and could find a ready market for the excess among those unskilled or uninterested in this activity. Indeed, some made the manufacture rather than the use, of light sensitive material their sole activity. Thus began the photographic industry as we know it today.

A secondary change naturally followed. Prior to the 1870's it had been the usual practice to publish improvements in emulsion-making techniques so that they could be generally adopted. Now, that livelihood depended upon the quality of material, the tendency to publish methods of improvements diminished, and as early as 1873, Bergess marketed a dry plate made according to a secret formula, thus setting the pattern for subsequent

¹⁴ Harry Baines, *The Science of Photography*. Fountain Press, 1958.

manufacture. Until about 1860, the Calotype process used a similar material for both negative and positive stages. The decades 1850-70 saw the introduction of albumen-sulphur chloride, and of the Callodio-silver chloride papers and the following decade the elegant platinotype process and the silver bromide development paper made their appearance. Gelatin-printout paper was introduced by Abney in 1882. The image was produced solely by contact printing in bright daylight. The excess silver salt was removed by fixing in hypo and the inclusion of a gold salt in the hypo bath converted the unpleasant color of the finally divided silver image to a much more satisfactory color of the gold image.

As an illustration, in 1888, the American Aristotype Company, placed on the market a sensitized collodion paper ("Aristo") in a limited way. It had several serious defects that were immediately noted by professional and amateur photographers and was taken off the market. After five months of exhaustive experimentation, they perfected a new sensitized collodion printing process which was commercially practical. The photographer could now produce a picture in definition, tone, brilliancy, finish and durability, far superior to the albumen process without the trouble of silvering, drying or fuming.¹⁵

Ottomar Jarecki studied much of the available photographic literature. **Photographics**, **British Journal**, and **The American Annual of Photography and Photographic Times** were three such sources of technical photographic literature. Ottomar's first technical paper "An Amateur's Routine of Silver Printing" discussed the preparation of paper, silvering bath, fuming, toning, fixing, washing prints and mounting.¹⁶ This article gives a good general description of the preparation of albumen paper that Ottomar used during this period. Prints of this type of paper were characterized by a pleasing blue-black tone which was held in high repute.

Ottomar and his wife took many pictures including stereopticon slide pictures of the city of Erie. In order to do this, they needed a pair of stereo lenses and shutters. This required ingenuity from Ottomar. He explained this process in his article "A Compound Stereo Frame and Shutter."¹⁷ In his travels, Ottomar took many pictures of sculpture throughout the world. He acquired a vast collection which, unfortunately, has not been located. In his article "Focusing by Proxy," Ottomar says that he was once called upon to photograph one of the iron cells of a certain police station. This required the photograph to be accurate as it was to be used in the court of law to elucidate and support some points of evidence.¹⁸

For his own use, Ottomar would prepare a glass lantern slides which used a carbon arc lamp to project the light through condensing lenses and through the glass slide to produce black and white images. He clearly describes the process he uses in his operation in an article "A Course in Lantern-Slides."¹⁹ In this article, he gives some excellent, practical information to the semi-professional and professional photographers. He used the gelatino-bromide

¹⁵ Anon., "Aristotype introduced a year ago; "American Amateur Photographer, Vol. 1, No. 4 (October, 1889).

¹⁶ Ottomar Jarecki, *The American Annual of Photography and Photographic Times Almanac*, 1888, pages 171-8.

¹⁷ Ottomar Jarecki, *The American Annual of Photography and Photographic Times Almanac*, 1895, pages 68-75.

¹⁸ Ottomar Jarecki, *The American Annual of Photography and Photographic Times Almanac*, 1894, pages 125-217.

¹⁹ Ottomar Jarecki, *The American Annual of Photography and Photographic Times Almanac*, 1889, pages 196-205.

formula of Mr. J.B.B. Wellington and Mr.B.J. Edwards but made his own improvements. He carefully describes how the plates are treated and gives the formulations he used. He concludes by stating that the reader, by following his directions, may feel confident that his slides will be worthy of the time taken for the process.

In the 1880's and 1890's, Ottomar was experimenting with color photography. He used various dyes to produce the red, green and blue constituents of any color and their subsequent combination to give an approximate match with the color. It was the object of supporting the tri-color theory of vision that the first color photograph was taken by Clerk Maxwell and shown at a meeting of the Royal Institute in 1861. Clerk Maxwell's color rendering was poor by modern standards, but surprisingly good in view of the quality of materials in the absence of sensitizing dyes in 1861. In 1869, a remarkable Frenchman, Louis Ducos du Haron, published a book in which he suggested many methods whereby colors could be reproduced photographically. He proposed a modification of Clerk Maxwell's method which would make it practical by dispensing with the three lanterns. Ottomar realized that his process took too much time to be considered practical for commercialization. In 1895, Professor Joly of Dublin achieved success in applying Maxwell's principle. A plate was exposed in a camera behind and in contact with a screen. From the process negative, a positive glass transparency was made by contact printing and, on registering transparency with the screen so the lines of red, blue and green record coincided with red, blue and green lines of the screen. This, however, was not a commercial success.

The first method to be a commercial success was an ingenious one devised by the Lumiere Brothers and put on the market in 1907. They used starch grains which are minute and clearly uniform in size. Three lots of starch grains were dyed red, green and blue, respectively, dried, and mixed to give a gray powder.

For various bromide plates which Ottomar Jarecki prepared using contact printing, artificial light is both sufficient and satisfactory. In Ottomar's experience with gas, a small iron burner served well, giving a flame of medium size. He pointed out that it was important to pay attention to the distance between the light and the printing frame, in order to secure uniformity of the print and to make intelligent changes in the timing, when necessary. He pointed out that, by a simple law of light, an exposure of 5 seconds at 12 inches is mathematically equivalent to 10 seconds at 18 inches, or 20 seconds at 24 inches. Where the exposure is as much as 5 minutes at 12 inches distance, Ottomar often used 3 inches of a light magnesium ribbon which he held in tweezers and ignited in the gas flame which was turned down low. With a heavier ribbon, a shorter length would serve the purpose. Most of this work was done in Ottomar's dark room on the second floor of his house.

The printing-out processes (POP) were well suited to producing a visual image on exposure to daylight as well as a strong source of artificial light. In the silver printing-out processes, which included plain salted paper, albumen and collodion and gelatin papers, the principle difference was in the medium holding the silver halide crystals.²⁰ This was one form of printing which was

²⁰ C. B. Neblette, *Photography — Its Materials and Processes*, Van Nostrand Reinhold Co., page 354.

common between 1888 and about 1910. Also in this period, the process of gum bichromate printing was quite popular. The process consisted of contact-printing negatives on a good grade of paper coated with a light sensitive bichromate solution. This is composed of a water-soluble pigment and potassium or ammonium bichromate suspended in a vehicle of gum arabic. The pigment can be anything from tube water colors to tempera paint just as long as it will dissolve in water.²¹ For their use, Ottomar constructed hundreds of wooden frames with glass fronts which were mounted in his back yard. In this process, he and his wife would print positive pictures from negatives onto this specially prepared paper using the available sunlight. Exposures of 10, 20 or 30 minutes were common.

Photography was only one of Ottomar's outstanding achievements. His talents were utilized in other areas too. In the late 19th century, directors of theatrical shows, burlesque, circuses and other similar performances used oxygen-acetylene fueled lime lights (spot lights) to focus the attention of the audience on specific performers. These oxyacetylene lime lights used mirrors and lenses to concentrate the illumination. Switching from one light to another was a difficult task for the lighting technician. Utilizing his mechanical mind and the machine shop on the second floor of his East Seventh Street home, Ottomar designed and built a lime light blender which used the principle of levers to switch one lime light off and another on in a smooth manner. Thus, the theatrical director was able to achieve his desired lighting aspects

The term "limelight", used for lantern projections and for stage spotlights, was so given because it used a stick of lime, calcium oxide, which was held in a flame and glowed brilliantly. Ottomar Jarecki noticed that the amount of light diminished as the oxyacetylene flame "cut" into the lime. He developed a device which rotated the stick of lime to compensate for this cavitation which produced a more steady light.

The method most frequently used in the laboratory to produce oxygen is to heat the ternary compound potassium chlorate. If this white solid is heated considerably above its melting point (357° C), oxygen escapes. Utilizing the retort principle of Lavoisier, Ottomar Jarecki built a metal retort for the production of oxygen. It was a horizontal cylinder of steel rolled, riveted and caulked which was about 5 ft. long. Into it was charged the potassium chlorate. He used a fish tail Bunsen burner which ran on two tracks parallel to the axis of the retort which was operated by clock work. The oxygen that was formed went through scrubbers and into a gas holding tank which was adjusted through pulleys. He designed a compressor which was used to store the oxygen.

The end of the 19th century and the first six years of the 20th century were sad ones for Ottomar Jarecki. On Thursday morning, December 28, 1899, just four days before the beginning of the 20th century, August Jarecki died at the age of 76. He was buried from St. Paul's German Church, Peach Street. While Ottomar and his wife were not church-goers, he dearly loved his father and mourned his passing. August Jarecki was buried in the Erie Cemetery at the beginning of the 20th century. In late January, 1901, at the same time that Queen Victoria had passed away in Great Britain, double tragedy hit the

²¹ Anon., "Creative Dark Room Techniques," Kodak Publication AG-18, Cat. No. 142 2211.

Jarecki family. After suffering for several weeks with a bad winter cold which developed into the grippe, Charles Jarecki, president of Jarecki Manufacturing, died on Saturday afternoon, January 26, 1901 in his home on the corner of Ninth and French Streets. Upon hearing of his death, his sister, Mrs. Emma Drodzewski, suffered a heart attack and, eight hours after the death of her brother, Emma died in her home at 121 East Ninth Street.²² A little over a month later, on March 3, 1901, Ottomar's younger brother, Emil William Jarecki, died in his 43rd year.²³



Figure 4

Figure 4 is a photograph of the August Jarecki Jewelry Store at 622 State Street. This was taken shortly after the turn of the 20th century and shows examples of transportation of the day parked in front of the Erie Trust Company Building which occupied the corner of State Street and South Park Row. The picture indicates that the August Jarecki business was largely centered around photography at that time.

In late 1904, Ottomar Jarecki retired from August Jarecki Jewelers. The store then became Photo Supply Company (1905), then Holmquist Photo and J.N Decker, Jewelers (1906-1910) and later Newer and English Kodaks (1919). On February 26, 1906, Mrs. Julie Jarecki, widow of late August Jarecki, died at the family residence, 622 State Street. She was 82 years of age.

²² Anon., *Erie Morning Dispatch*, Jan. 28, 1901.

²³ Anon., *Erie Morning Dispatch*, March 6, 1901.



Figure 5

Figure 5 is a picture of Ottomar Jarecki taken in the early 20th century. It shows his watch bob and chain, a small compass and his glasses which he purchased in the local 5 & 10 Store. He had separate glasses for reading which are hanging from his vest. Ottomar never purchased clothes from a commercial tailor, and as a result, never fit exactly. The suit he is wearing is a typical salt and pepper look suit which he probably purchased through the catalog services of Sears & Roebuck Company.

OTTOMAR IN RETIREMENT

Now that Ottomar was "retired" from the jewellery business, he and Amelia travelled to Europe every other year. Amelia was an international chess and bridge player and often engaged in tournaments in Europe and the middle east. Being a very thrifty person, when they would travel to Europe, Ottomar would bring his watch making equipment and travel to Paris to supplement his income by repairing watches. Ottomar and Amelia purchased a home in Daytona, Florida which they would visit each year in the wintertime. He enjoyed the warmer climate, and in 1917, purchased an Olds which he used for driving in Florida. He had a 1914 or 1915 Ford which he garaged in Erie. Six months before the end of World War I, on Wednesday, May 18, 1918, Amelia von Buseck Jarecki, died at the age of 66 years.²⁴

Ottomar continued to dabble in his hobbies but problems with cataracts caused him to go blind in the early 1920's. His great-nephew, Charles A. Curtze, lived two doors away on East Seventh Street. Charles A. Curtze got to know his great-uncle, Ottomar, quite well and often spent time reading to his uncle whose sight was failing. In return, Ottomar spent time with Charles Curtze explaining the function of all the available machinery. When Ottomar was in Florida, Charles Curtze had full use of the house.

With Ottomar's health failing more, he came to live with Antonia Jarecki Curtze in the 1920's. She would prepare breakfast and supper and launder his clothes. On Friday night, September 11, 1931, Ottomar Jarecki died.²⁵ Thus ended the career of a most interesting scholar and inventor - one of the first two high school graduates of the Erie High School.

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²⁴ Anon., *Erie Daily Times*, May 18, 1918.

²⁵ Anon., *Erie Daily Times*, Sept. 12, 1931.

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