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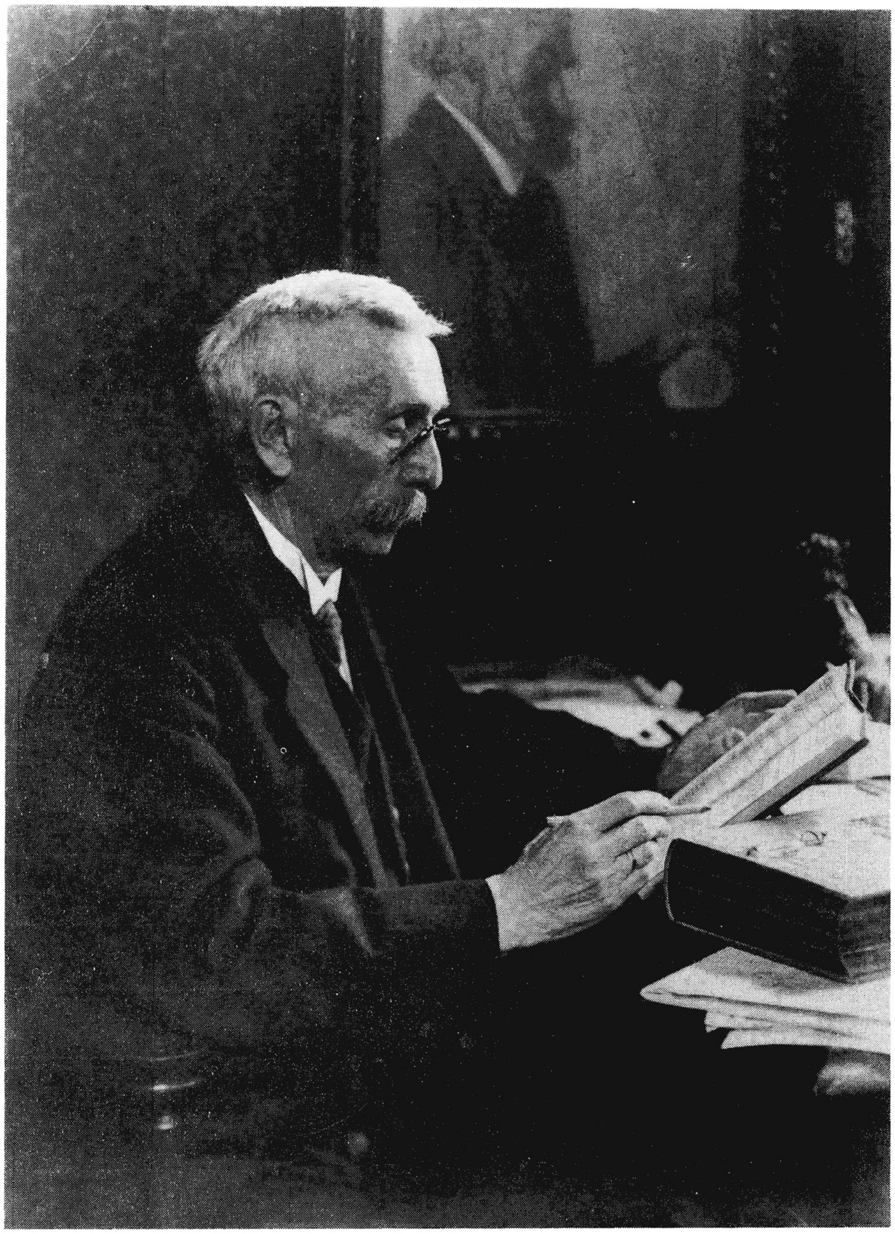

The Zeiss Historica Society of America is an educational, non-profit society dedicated to the study and exchange of information on the history of the Carl Zeiss optical company and affiliates, its people and products from 1846 to the present.

ALL ENQUIRIES SHOULD BE ADDRESSED TO THE EDITOR
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Cover photo

Photograph taken by Biskoff - 1927, of the world-renowned glass chemist who through his experimental glass-melts, put glass on a scientific basis and in partnership with the Carl Zeiss Works made optical glass which had no peers. The background painting is of Dr. Ernst Abbe mentor and friend.

ILLUSTRATION SOURCES

COVER PHOTO
Courtesy of Schott Glassworks, Mainz

Pgs. 3, 4 and 5
Author's collection

Pg 7 - Zeiss Mikro 500 catalog - ca. 1939

Pg. 8 - Author's collection

Pg. 9 - M Kibbey

Pg. 10 - Author's collection

Back Cover
Contax Kurz Schule, 1934

CARL ZEISS IN JENA
OPTISCHE WERKSTAETTE.

CARL ZEISS
JENA

ZEISS
West Germany

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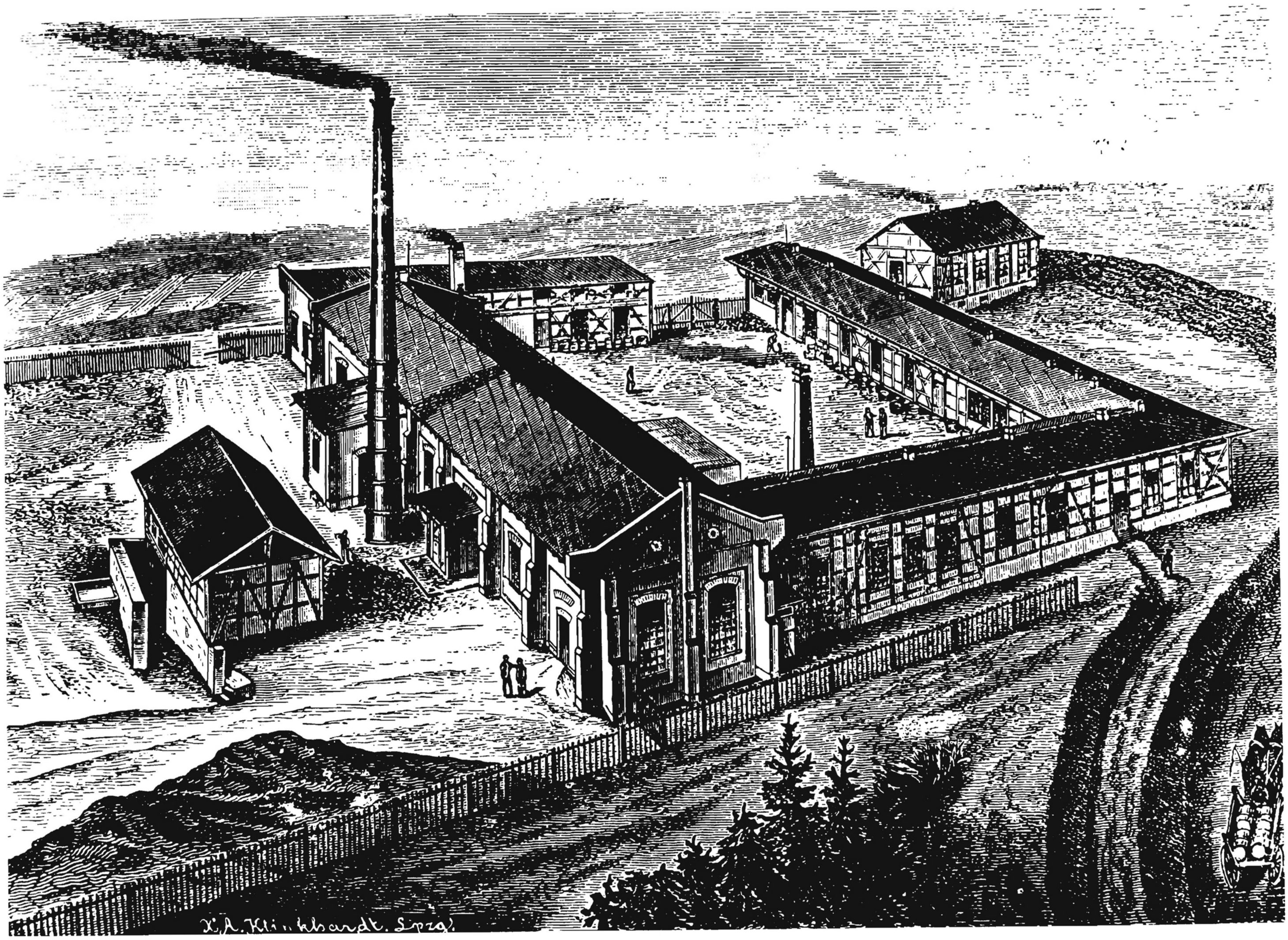


Pen and ink drawing by X.A. Klinkhardt, Lpzg., of the first glass factory of DR. OTTO SCHOTT, founded with the help of Carl and Roderic Zeiss and Dr. Abbe. Opened on September 1, 1884, it was first named Glass Technical Laboratory Schott & Associates, and later JENAer GLASWERK.

OTTO SCHOTT
the alchemist from WITTEN an dem Ruhr

Thomas Schreiner, Buffalo n.y.

The glassmaker's craft is an old one and of itinerant character. Like the shepherd who wandered from one pasture to the next, the glassmaker went wherever there was wood. He needed it for his furnace and for the potash. Since he was not allowed to burn down forests, he was forced by law to travel from place to place, even in ancient times. Like the ancient ironworkers the glassmakers, too, had to live a life of utter isolation in the dark of the forests.

Thus it came about an inn was established at each of the glassworks. Couriers and journeymen, hunters and hunting parties felt at home with the glassmakers who were known to be jolly and always thirsty hosts, and who also were likely to surpass their guests in frolicking.

The ancient art of glassmaking which originated in the time of the Pharaohs, was brought to Germany by the Romans. The first glassworks were built in Cologne on the Rhine, and expanded westward into Lorraine and eastward into Bohemia.

Toward the end of the eighteenth century, two events occured in rapid succession which, more than any other measure, halted the roamings of the glassmakers: the invention of the steam engine, which allowed coal to be mined cheaply and replaced wood as his fuel for the glass furnace; and the industrial production of soda which rendered the costly potash superfluous. Thus the making of glass became inexpensive, and a new industry - making window glass by machine . . . started.

The basic ingredients of glass - sand, lime and potash or soda, and the proportions for mixing were closely guarded secrets of the glassmakers.

Ancient glass which has a greenish tinge was called CROWN, a name which originated from the mode of manufacture, and in 1609 was used by GALILEO in the construction of his telescope. Toward the end of the 17th century, a second type of glass FLINT was produced in England by adding flintstone to the ingredients.

FLINT glass has twice the color dispersion of CROWN glass, and therefore the possibility of compensating the color errors of Crown. Flint glass lenses became a reality when in 1758 the English optician DOLLOND succeeded in constructing achromatic telescopes by combining a convex lens of Crown glass with a hollow-cut lens made of Flint glass, thus the troublesome rainbow colors of Crown glass diminished in the picture; but a colored edge, a so-called "secondary spectrum" persisted.

While LOMONOSSOW carried out extensive experiments in Russia, FRAUNHOFER in Munich (1814) succeeded in combining seven oxides in glass which he utilized in his famous astronomical instruments, unfortunately his glass formulas were carried to the grave, as was the secret of making large pieces of Flint glass.

Immediately following the Fraunhofer experiments the name JENA appears for the first time in the history of glass. In 1829, the prominent chemist, Prof DOBEREINER in Jena, commenced experiments in glass smelting and he introduced barium and later strontium as variations in the formula, but was not successful in making a viable product.

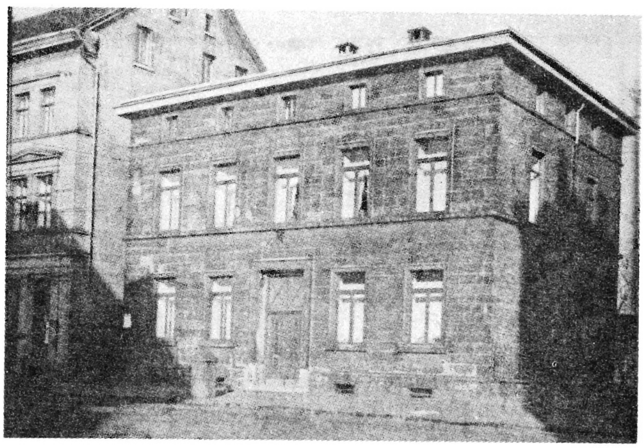
In 1846, CARL ZEISS was granted . . . 'a License to Manufacture and sell Mechanical and Optical Instruments, and to establish a Mechanical Workshop', and by the 1860's with the assistance of his foreman LOBER, produced microscopes of a quality that gained world-wide attention, although hampered and frustrated by his inability to produce objectives and eyepieces with a degree of uniformity from pre-calculations. During this period Zeiss also repaired and constructed scientific instruments for the natural science Professors at the University of Jena. As fate would have it . . . in 1863 Prof ERNST ABBE joined the faculty as a lecturer and thus became friends with Zeiss and soon took an interest in the optical problems of his microscopes. This liason expanded and in 1866, Abbe joined the Zeiss firm as 'First Scientific Assistant' and by 1869 began his studies of optical laws.

In 1876, Abbe attended the London International Exhibition of Scientific Apparatus, and later in his report stressed that the only remaining possibility for improving these instruments would be the elimination of the 'secondary spectrum' . . . thru a 'new fangled' . . . kind of glass.

Since Abbe was already considered the highest authority in the field of optical apparatus construction, his word was law.

As luck would have it, fate smiled again when this report was read by a young glassmaker from WITTEN by the name of DR. OTTO SCHOTT, who was born in 1851, and was the son of a glassmaker from Lorraine, who in turn descended from glassmakers and ashburners. In 1879 Schott set up an 'alchemists hole' in the basement of his father's home in Witten to look into the heart of glass. He soon realized that glass could be made from more and different kinds of earth and metal oxides, and that it varied from other melt-fluxes only in that it solidified

and remained transparent and isotropic. This property, to solidify and remain transparent, occured in glass because it does not - against all rules of nature - crystallize. Schott sitting in front of his small alchemist's stove, had another stroke of genius . . . if one could compose the mass of glass in an unorthodox way, it should be possible to endow the glass with other physical properties. If this were possible, then it should necessarily be possible as well to create the 'new-fangled' glass wanted by Professor Abbe for his microscopes and telescopes.



Residence of the SIMON SCHOTT family.
Witten a.d. Ruhr, Germany.
It was in the basement of this house that Simon Schott's son OTTO in 1879 established an alchemist's hole to look into the heart of glass. From these experiments and friendship with Prof Abbe and Carl Zeiss of Jena, the Zeiss Works gained world-renown.

One day in May 1879, Schott melted fluxes containing the rare lithium oxide. It was glass, but necessarily glass of a different physical property. Schott packed these pieces in cotton, composed a first letter (May 27, 1879) to Prof Abbe requesting the pieces be tested, and posted it to Jena. Schott's lithium glass did not have the hoped for optical properties however, Abbe was impressed by the young chemist and thus began a lifelong friendship.

During 1880, their started an exchange of letters, sometimes stormy, between Abbe and Schott on the future of glass mixes, the need for a larger laboratory and the possibility of a glass factory; which culminated in frequent visits to Jena to talk about the big glass problems. During this year Schott continued to manufacture research glasses which comprised one hundred and thirty test-melts all of which were also packed off to Jena for testing. Abbe, meanwhile had set-up a small experimental station to test the optical properties of the arriving bits of glass. In the autumn of 1881 it happened! The ninety-third trial was the lucky one . . . if it was combined with glass from the experimental melt 77, the 'secondary spectrum' disappeared almost completely

In 1883, Prof Abbe selected seven new types of Schott optical glass and constructed two experimental microscope objectives (4mm-0.86NA and a 25mm-0.3NA). The Berlin instrument maker C. BAMBERG, who was closely associated with Carl Zeiss, tells us that the first of these lenses gave a definition - 'as has perhaps not been accomplished before combined with great brightness and complete correction of every trace of chromatic abberation . . . the secondary spectrum.

Meanwhile, (1882) Schott had moved permanently to Jena and with personal funds financed a laboratory. One year later it took it's first test melt but the results were far different from what Abbe and Schott had hoped for, the results on a large scale did not measure up to the promises of the Witten experiments. Schott worked like a madman, and slowly, very slowly the first successes materialized.

The decision to expand Schott's laboratory into a factory came at the end of 1883, when Carl and his son Roderich Zeiss, Abbe and Schott signed a founders contract, with additional funding coming from the Prussian Government. One September 1, 1884; Mrs. Abbe lit the fire in the first furnace of the new factory which at first was named 'GLASS TECHNICAL LABORATORY SCHOTT and ASSOCIATES'.

The first item manufactured was a special glass for thermometers which is still used to this day, this was followed by a compound glass for water-level pipes of steam boilers, and in 1893 a special borosilicate glass insensitive to sudden changes in temperature which made the invention of the new "Welsbach Light" possible, and Jena glass conquered the world.

In 1886, Prof Abbe completed his calculations for six new microscope objectives utilizing the new glass shown in Schott's first published price list; this list enumerated fourty-four kinds of optical glass, among them twenty completely new ones whose optical qualities were indicated by exact measurement, and included several named barium crown which as we shall see gave a new impedus to photographic optics.

Laufende Nr.	Fabrikations-Nr.	Benennung	Brechungs-index für D	Mittlere Dispersion C bis F	$\nu = \frac{n-1}{\Delta n}$	Partielle Dispersion A' bis D	D bis F	F bis G'	Specif. Gewicht	Bemerkungen	Preis pr. Kgr Mark
1	O. 225	*Leichtes Phosphat-Crown*	1,5159	0,00737	70,0	0,00485	0,00515	0,00407	2,58	Farblos	70.—
2	S. 40	*Mittleres Phosphat-Crown*	1,5590	0,00835	66,9	0,00546	0,00587	0,00466	3,07	desgl.	60.—
3	S. 30	*Schweres Barium-Phosphat-Crown*	1,5760	0,00884	65,	0,00570	0,00622	0,00500	3,35	Relativ nicht grosse Härte	75.—
4	S. 15	*Schwerstes Barium-Phosphat-Crown*	1,5906	0,00922	64,1	0,00591	0,00648	0,00521	3,66	Geringe Härte, geschützt zu verwenden	75.—
5	O. 144	*Boro-Silicat-Crown*	1,5100	0,00797	64,0	0,00519	0,00559	0,00446	2,47	Von ausnahmsweise hoher mechanischer Härte. Sehr farblos.	15.
6	O. 57	Leichtes Silicat-Crown	1,5086	0,00823	61,8	0,00530	0,00578	0,00464	2,46		10 —
7	O. 40	Silicat-Crown	1,5166	0,00849	60,9	0,00545	0,00596	0,00479	2,49		11
8	O. 60	Kalk-Silicat-Crown	1,5179	0,00860	60,2	0,00553	0,00605	0,00487	2,49	Genau übereinstimmend mit dem Hard-Crown von Chance Broth	11. —
9	O. 138	Silicat-Crown mit hoh. Brech.-Index	1,5258	0,00872	60,2	0,00560	0,00614	0,00494	2,53		12.—
10	S. 52	*Leichtes Borat-Crown*	1,5047	0,00840	60,0	0,00560	0,00587	0,00466	2,24	Nur an geschützten Stellen zu verwenden	60.—
11	O. 20	Silicat-Crown mit niedr. Brech.-Expon.	1,5019	0,00842	59,6	0,00543	0,00592	0,00478	2,47		12.
12	O. 227	*Barium-Silicat-Crown*	1,5399	0,00909	59,4	0,00582	0,00639	0,00514	2,73	Sehr farblos	18.—
13	O. 203	Gewöhnl. Silicat-Crown	1,5175	0,00877	59,0	0,00563	0,00616	0,00499	2,54		8.—
14	O. 13	Kali-Silicat-Crown	1,5228	0,00901	58,0	0,00572	0,00637	0,00515	2,53	Dieses Crownglas hat günstigeren Gang der Dispersion als das gewöhnliche Silicat-Crown	25.—
15	O. 15	Zink-Silicat-Crown	1,5308	0,00915	58,0	0,00587	0,00644	0,00520	3,33		20
16	O. 211	*Schweres Barium-Silicat-Crown*	1,5726	0,00995	57,5	0,00630	0,00702	0,00568	3,21	Farblos	25.—
17	O. 153	Silicat-Crownglas	1,5160	0,00904	57,2	0,00576	0,00637	0,00516	2,53		8.—

First Schott Glass Catalog - July 1886 - Page 1.

It should be noted that the new microscope objectives were not successful, several contained glass which was unstable and in hot or humid climates they soon began to devitrify so making them useless. It wasn't until 1894 and the introduction of the third series of microscope lenses that stable glass was used.

Schott's introduction of barium crown glass as a replacement for the traditional flint type in the manufacture of photographic lenses had great potential. Prof Abbe contacted a young genius in the employ of the Hugo Meyer Optical Company in Gorlitz who in 1884 had designed the PLASMAT and EURYPLAN lenses of some repute. Thus in 1886 DR. PAUL RUDOLPH joined the mathematics department of Carl Zeiss, and at first assisted Abbe in computing microscope objectives!

In 1888, Abbe re-calculated the formulae for astigmatism and thus provided an important pre-requisite for lens design. In the same year the glass laboratory offered an additional thirteen optical glasses. In this whirl of activity Abbe commissioned Rudolph to compute photographic lenses and establish a lens department. The proposed lens was a triplet, but after much calculation and experimentation Rudolph was unsuccessful with Abbe's ideas and began to work on his own, which soon generated a very fortunate idea . . . he combined an old Achromat with it's diffusing cemented surface with a so-called new Achromat made of high-refracting crown glass and low-refracting flint glass with a collecting cemented surface. In this manner, Rudolph succeeded in correcting at one and the same time the aperture error and the image field curvature, thus forming a basis for an entirely new type of lens system which was first marketed (1888) under the name ANASTIGMAT and subsequently in 1890 as PROTARS. Rudolph continued his use of the new Schott optical glass in the PLANAR lens of 1896; the UNAR of 1899 and it's legendary successor of 1902 . . . the TESSAR.

Schott's glass miracles continued to assist photography when in 1905 he produced a yellow glass colored in the mass which is graded in it's transparency with respect to the different colors of the spectrum. Later, 1907 the ZEISS WORKS introduced the 'DUKAR' filters of reddish yellow glass which had graded transmission properties in two maxima and a slight diverging effect for use with the Autochrome Color Process invented by the Lumiere Brothers.

In 1885, the physicist Prof. DR. SIEGFRIED CZAPSKI was appointed to the Zeiss staff by Abbe personally, and a glance at the journals and letters of the time indicates that he was directed to achieve the same success with telescopes as Abbe had done for microscopes. The practical testing to the new types of glass for astronomical telescope objectives was carried out at first by the optical workshop of Car Bamberg in Berlin, as noted in a report of Abbe dated November 9, 1885. In any case, Bamberg exhibited at the Conference of Natural Research Scientists in September 1886 in Berlin telescope objectives with apertures of 105 to 174mm, which were ground according to the calculations of Abbe's colleague Czapski from the new types of glass developed by Schott. In 1875 Abbe was appointed director of the astronomical observatory at the University of Jena, but soon found that the instruments were in need of replacement, utilizing his own funds, the Berlin firm of C. Bamberg supplied a 200mm refractor telescope with the new glass, which became operational in April 1891. That Schott products were soon valued by the leading optical manufacturers is illustrated again when, C.H. STEINHEIL in Munich (1896, produced the lens system for the large telescope at the ARCHENHOLD Observatory in Berlin with two large blocks of Jena glass.

How shall we take the measure of this man? . . . this GLASDOKTOR from Witten . . . who contributed so much to the growth and reputation of the Zeiss Works.

In 1952, upon the completion of the new JENA GLASWERK at Mainz, Germany there was unveiled in the main foyer a mosaic mural that perhaps sums up the life's work succinctly . . . it shows 'THE THIRTEEN CHIMNEY'S OF JENA'.

Research - Thomas R. Schreiner - Principal references:

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* ON THE DEVELOPMENT OF OPTICAL GLASS / Vogel, Gerth and Heindorf / Jena Review - 1965.1 - p. 75.
* THE ODYSSEY OF 41 GLASSMAKERS / Walther Kiaulehn 1959 / Schott-Mainz.
* SCHOTT SCHRIFTEN / Prof. Dr. Walter Hahland 1957 / Schott-Mainz.
* DR. OTTO SCHOTT ZUM GEDACHTNIS DER 100. WIEDERKEHR SEINES GEBURTSTAGES AM 17 DECEMBER 1951 / Hans Schimank / Deutschen Glastechnischen Gesellschaft, Frankfurt (Main).

THE ZEISS NEOPHOT

William M. Danner

A metallograph is a special inverted microscope combined with a light source and a camera, and used primarily for making micrographs of opaque objects.

The Neophot is a metallograph introduced by Carl Zeiss in 1938 In 1939 and 1940 I was in the metallurgical department of the Aliquippa Works of the Jones & Laughlin Steel Corporation, and part of my job was the making of micrographs with a brand-new Neophot. This was one case of duty being a pleasure. If Carl Zeiss over-looked any refinements to make the instrument better and easier to use, two years were not enough for me to discover such oversights. Unfortunately, the work I did was almost entirely the making of bright-field micrographs, so I never had an opportunity to try any of the other sorts of work for which attachments were provided.

Photo I shows the entire Neophot except for the very sturdy table that supported it and the fitted wooden case for lenses and accessories. At the extreme right is the clockwork-driven carbon arc light which, once adjusted, would provide an intense and absolutely uniform light for 40 minutes or more without further attention. Just in front of it is a water-cell filter consisting of a tubular porcelain body with optical flats front and rear and a corked opening at the top. This was filled with distilled water with a dye (I don't recall what dye) to absorb the heat from the arc. Additional filters could be attached to the front of the cell. Next is shown what appears to be a condenser, but this was not on the instrument I used. Next is the low-intensity light source, a 40-watt incandescent lamp in a tubular enclosure, mounted on a circular mask with a small center hole to exclude extraneous light from the optical path. This light, like the condenser, may be swung out of the optical path for use of the arc, which is much too powerful for visual examinations.

Photo 2 shows a closeup of the microscope body surmounted by the combination illuminator and the specimen stage--the only one of several possible arrangements that I used. The usual rotating micrometer stage, which is very heavily constructed, has an additional plate which may be moved against friction in any direction for quickly finding the exact area of the specimen to be examined. The objective lenses, designed for the Neophot and not usable in other microscopes, were simply inserted in the top of the illuminator body; since the microscope is an inverted one no threads or other fastenings are necessary. In line with the objective vertically and with the optical path horizontally is a prism beam-splitter, so that the specimen is illuminated with a normal beam of light through the objective itself, though there is provision for oblique illumination if desired. The returning rays of the image are reflected by another prism at the bottom of the body into the ocular tube for visual examination. When the desired spot was in the field and focused it was necessary only to swing the incandesent light out of the way, start the arc, pull out the knob seen in the front of the illuminator body, and make the exposure by means of the shutter on the camera. I have never seen a diagram of the interior of the illuminator, but I presume that pulling the knob out inserts an additional prism to direct the image into the tube seen extending to the left of the body, which is fastened to the lens board of the camera.

This tube is removable and can be replaced with one of several Tessar lenses for ordinary photographs or with special attachments for low-power magnification. The camera bellows is provided with backs for either 5 x 7 or 4 x 5 holders and, while I used both, by far most work was done with 4 x 5 Wratten Metallographic plates. A mirror at the rear of the camera made it possible to see the ground glass while the operator was at the ocular tube, if he so desired. At the bottom of the body may be seen the two focusing knobs. That in the rear, with a large locking knob to its rear, is the coarse adjustment which moves the stage. The vernier adjustment at the front is the fine-focusing knob which moves the vertical illuminator so it is not affected by any load on the stage. The two long, leather-covered spindles seen inside the camera rails in photo 1 are directly connected to these knobs so that focusing can be done if necessary from the rear of the instrument while examining the ground glass. This view shows also the four very effective shock mounts at the corners of the optical bench.

The lenses provided made possible visual examination at from 40x to 1800x, and for micrographs slight additional "empty" magnification could increase it to 2000x or over, depending upon the bellows extension. For the highest magnifications an oil-immersion objective was used, and several times I had occasion to make 5 x 7 negatives at 2000x which were perfectly sharp and clear to the corners.

I might mention that most of the micrographs I made were for investigators who were looking into claims of defective steel or unsuitability by customers. A small piece taken at a fracture, for example, was mounted in babbitt or, in a heated mounting press made for the purpose, in bakelite or lucite. This was rough ground on a wheel, smoothed on a sanding belt followed by hand sanding on successively finer papers, and then polished wht levigated alumina and one or two grades of polishing alumina on horizontal laps. Careful polishing in the way can produce a surface in which no scratches are apparent at 2000x magnification. For examination the surface is lightly etched in nital, a preparation of 5% nitric acid in absolute alcohol. This brings out the structure of the metal so that dirt, inclusions, piping, etc., are clearly shown.

In 1941 I was transferred to the Pittsburgh Works of the firm, where the metallurgical department had a similar instrument made by Bausch & Lomb. To the eye it was more attractive than the Neophot but, as the old saying goes, beauty is as beauty does. In using the Neophot, with the elbows resting on the table the hands fall naturally on the controls. In using the B & L, on the other hand, when the hands are on the controls, the elbows hang in midair, which is very tiring in a long investigation. For illumination the B & L used a mercury-vapor arc which, though theoretically more convenient that the carbon arc, in practice gave a great deal of trouble because of burning of the socket contacts, resulting in uncertain and, in any case, less intense illumination than with the Neophot arc.

Developments in microscopy are such that today the Neophot is obsolete or at least obsolescent. I have been unable to find out whether the one at J & L is still in use and, if not, what its dispostion has been. The metallurgist for a specialty steel company told me that his firm has a Neophot which is carefully stored away and that routine investigations are made with an electron microscope or with an optical metallograph that is much more compact and uses rollfilm. If you have the room for it (it's at least six feet long) and feel so inclined hunt around a bit. If you can find one it might be obtainable quite reasonably, and it's a beautiful example of the art of Carl Zeiss at its best.

In the mid-40s a B & L representative who visited the plant told me a sad little story. The last half-dozen Neophots shipped to the U.S., just at the beginning of the war, were on a steamer that was sunk by a German submarine.

PHOTO 1

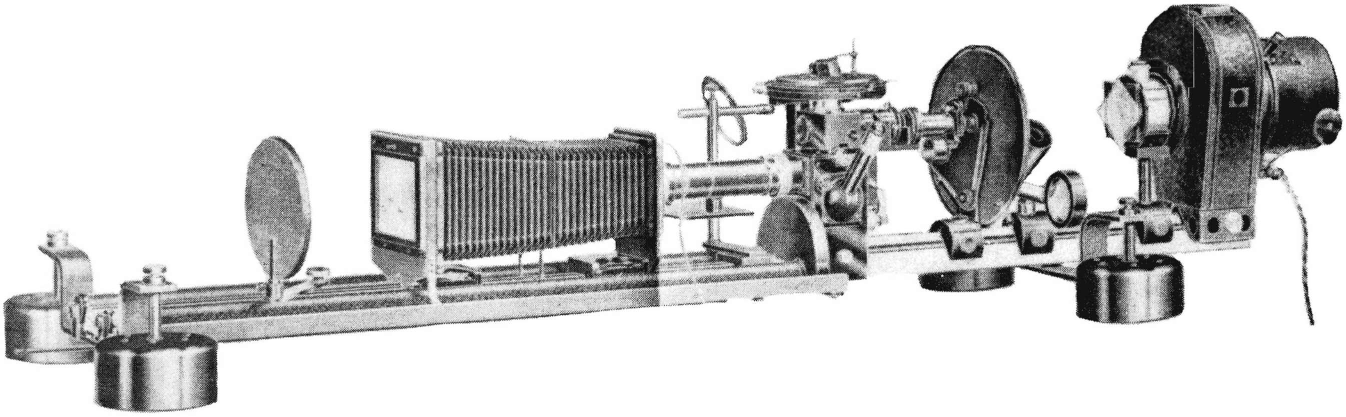
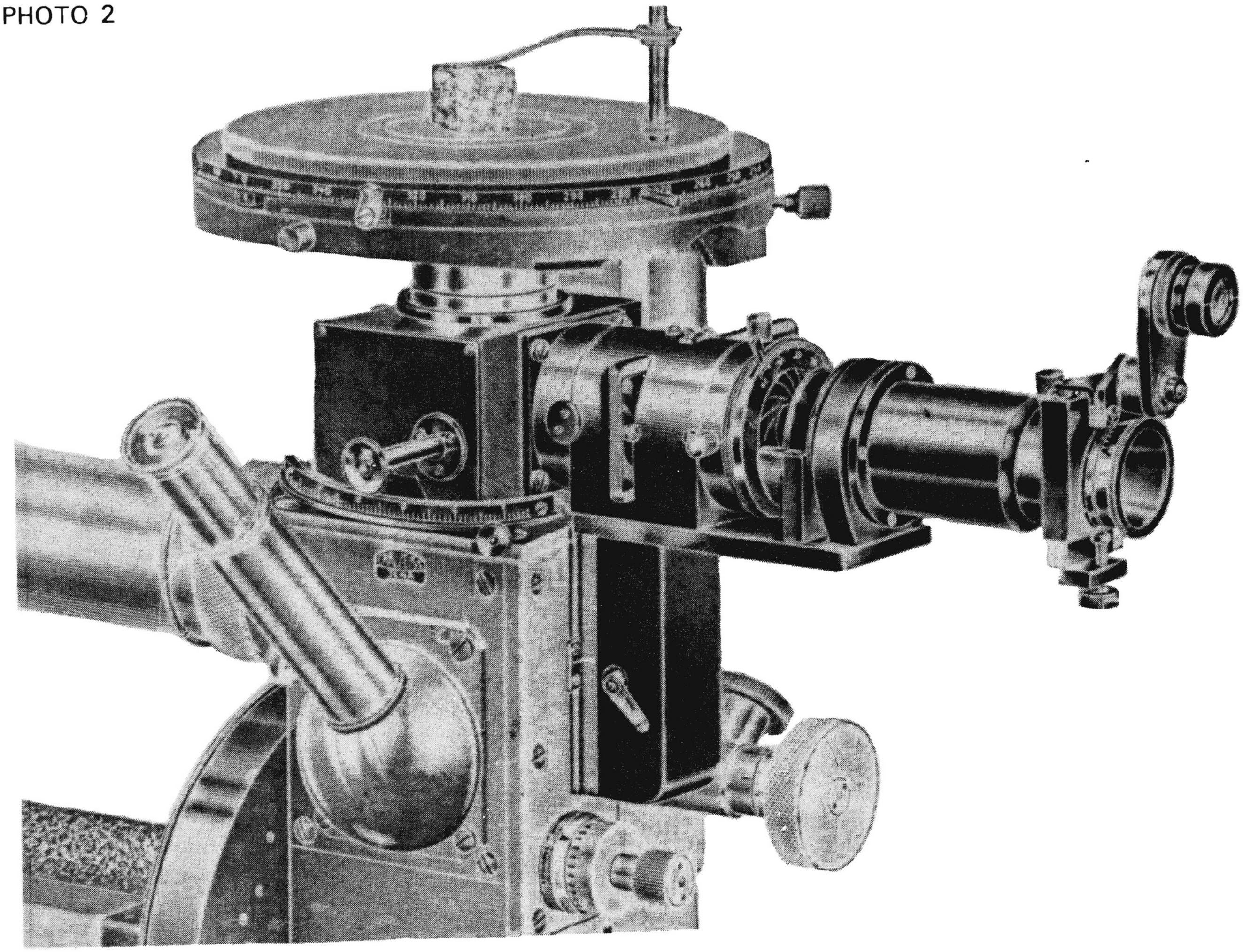


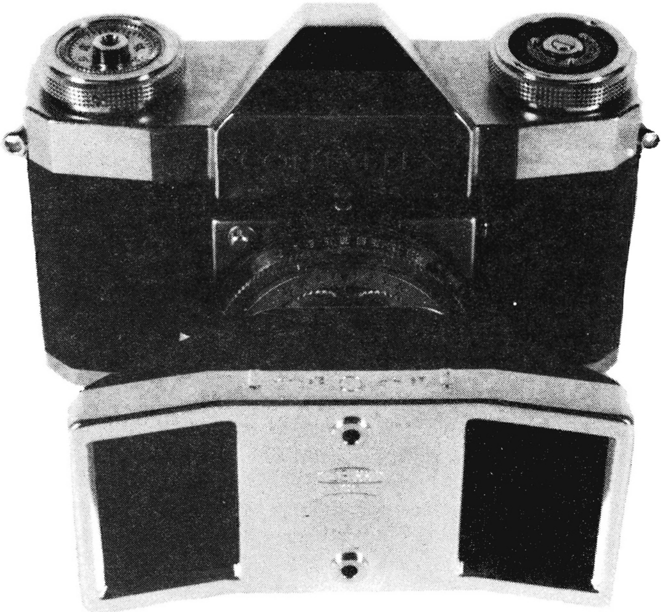
PHOTO 2



ZEISS IKON STEREO EQUIPMENT

Gary Pilecki Albany Calif

Zeiss Ikon manufacturered stereo cameras long before World War II. In about 1940, they took the route of manufacturing stereo attachments for their Contax camera, in order that one camera could be used either for normal photography or for stereo photography After the war, they came out with more stereo attchments for their other cameras, along with stereo viewers, projector stereo heads, and many other stereo accessories.



Steritar A on Contaflex

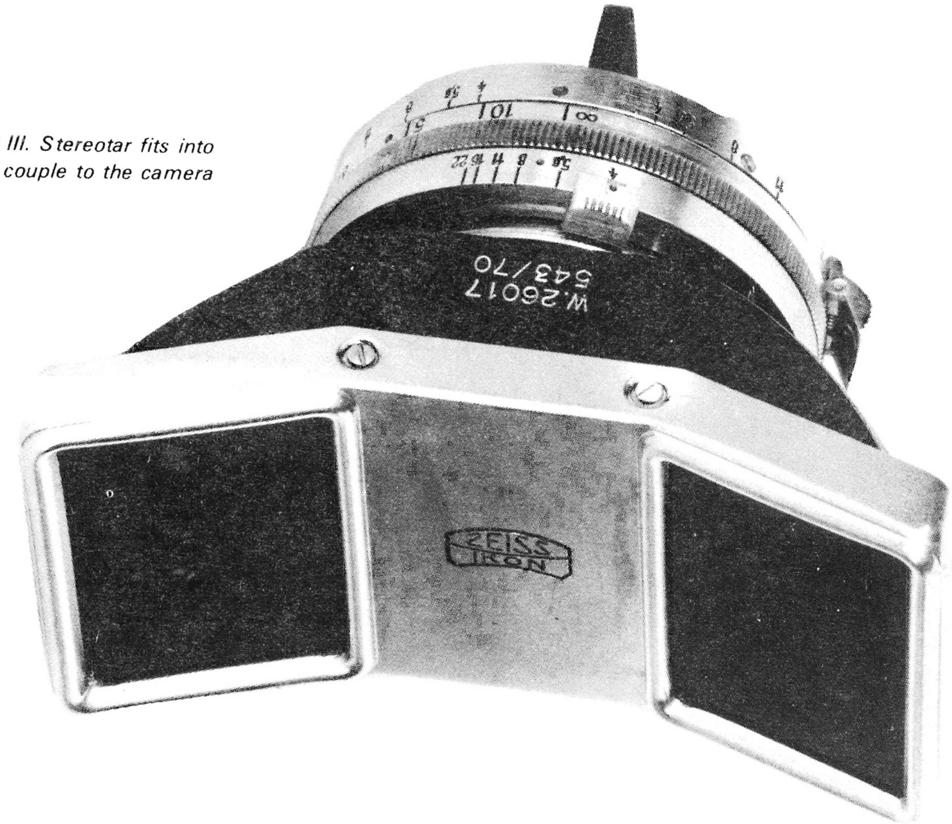
The two types of Zeiss Ikon stereo attachments made were the 0 and 00 stereo units. The 0 units are the Steritar A, B, Close-up B, and D. With these units, the prism produces two images through the one standard lens of the camera, and exchanges these images. Only 0 viewers can be used for these transparencies. The 00 unit is the post-war and pre-war Stereotar C This unit produces two images through two lenses and the images are not exchanged. Only 00 viewers can be used for these transparencies. All of the Zeiss stereo units produce two stereo half images side by side, upright, and 16 x 23 mm each in size on a normal 24 x 36 mm frame. When using any of these units, it is possible to switch from stereo photography to normal photography on the same film strip by simply taking off the stereo unit and putting on the normal lens.

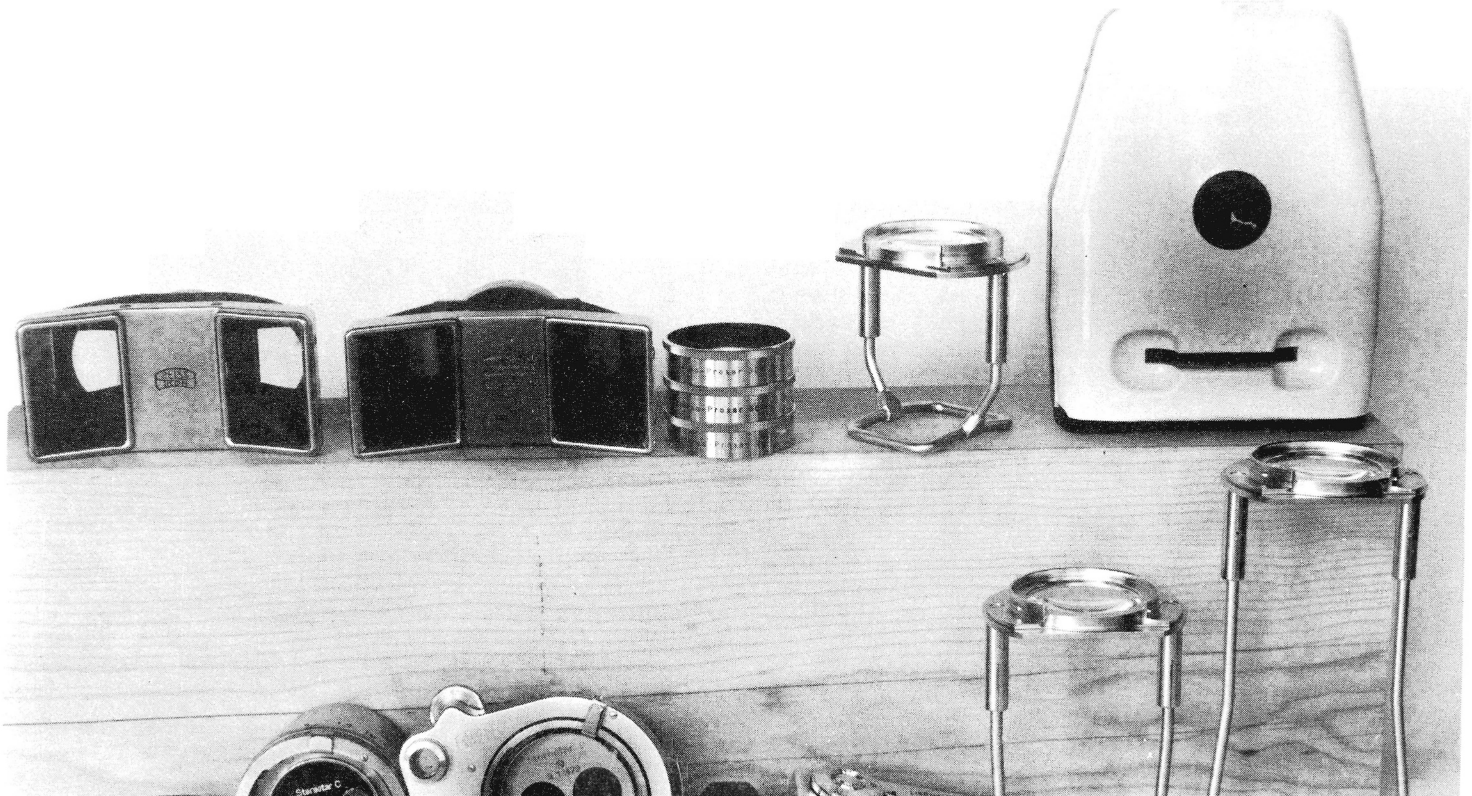
When using the Steritars A, B, Close-up B and D, the split-image rangefinder cannot be used. One has to either guess the focus, or focus on the ground glass. If it is necessary to use a stop larger than f 5.6, the separator shield should be inserted into the front of the prism attachment in order to obtain a satisfactory separation of the half-images.

0 Stereo Viewer with Battery Housing

The post-war Stereotar C consists of two 35 mm f 3.5 Stereotar lenses. The pre-war version has two 35 mm f 4 Stereotar lenses. In the post-war version, the diaphragms can be adjusted simultaneously and the camera rangefinder used, but in the pre-war version, the camera rangefinder is not coupled. For shots from 8 ft. to infinity, the prism attachment should be used. For shots from 2-3/4 ft. to 8 ft., the Stereotar unit should be used by itself. Although the post-war Stereotar C was designed for use on the Contax IIa and IIIa, it can also be used on the Contax II and III. However, when used on the Contax II and III, the rangefinder will not be coupled. The pre-war version can also be used on any Contax, but without the use of the camera rangefinder.

STEREOTAR C (543[70)
Designed for use on Contax models I, II, and III. Stereotar fits into the camera in place of the lens and does not couple to the camera rangefinder. Circa 1940.





Contax stereo accessories (pre and post-war) with 00 viewer

ZEISS PHOTO EXPOSURE METERS

Larry Gubas, New York

Serial numbers such as those presented in the spring issue by Nick Grossman are always interesting but sometimes baffling. The numbers prior to 1930 are not consistent with those after 1930. However they are consistent from that point until the early 1960's when the entire numbering scheme was revised. A case on this point could be the light meters that Zeiss Ikon produced in that time frame.

The earliest example was the Diaphot/Kidiaphot, an extinction type, it was a carryover from the Ica catalog that appeared in the catalogs through 1932 and held the product number 1321. The next exposure meter to be marketed was the Helios (circa 1937) as 1325 and was accompanied by the rotating wedge rangefinder and exposure meter combination, the Helicon, as 1326. I have been able to document that the first IKOPHOT appeared during the war years (1943). It was a rectangularized, black and chrome selenium celled item (1328) that was reconfigured after the war into the familiar cream colored model in the brown fitted case and gilt wrist chain (1329) that prospered until the late 1950's.

The question at this point is to fill in the blanks:

1321	Diaphot/Kidiaphot
1322	Mystery number one
1323	Mystery number two
1324	Mystery number three
1325	Helios
1326	Helicon
1327	Mystery number four
1328	Wartime Ikophot
1329	Post War Ikophot

1325 HELIOS (1937)

I propose that the blanks can be filled with the meters that were installed in the cameras in the prewar years. 1327 would be easy to define since the Super Ikonta BX was the last of them to enter the product line. Then, 1324 can be defined as the Contax III which followed the Contaflex onto the market. The Contaflex (TLR) would then be 1323 but 1322 is now a problem. Have we any other candidates? Well, think back to Mead Kibbey's 1980 article on his visit to Oberkochen. He attached to the article the patent drawing for an exposure meter designed to be incorporated into the body of the Contax I. Doctor Kuppenbender filed this document with the US Patent Office on November 15, 1934.

It is certainly food for thought but alas, I can not prove it.

A few asides lest I misinform-

1. Almost all of the USA distributed pre-war pricelists, flyers, catalogs etc. have no product numbers listed. You have to go to the foreign catalogs or to the cameras themselves for the numbers.
2. The Helios and Helicon were not the greatest of successes but the Helicon was discontinued first and in many instances the Helios was renamed the Helicon (so much for Teutonic consistency).
3. The Kidiaphot and the Diaphot were physical indentical except for a different scale system (a paper insert) for movies (Kidiaphot) and still cameras (Diaphot).

1328 IKOPHOT (1943)

ZEISS HISTORICA
LICHT STRAHLEN*

(* light rays)

A department for various items of interest and importance

HISTORY OF THE CONTAX - This master-work on "CONTAX-GESCHICHTE" 1932-45 by member Hans-Jurgen Kuc was published during the summer, and has quickly earned acclaim from Zeiss historians/collectors. It contains the biography of the CONTAX-system up to 1945, being full of detailed notes and illustrations, as well as some real surprises such as the 210° Contax Fisheye-lens from WW2! This excellent book with 133 pages and 115 illustrations (format A5 6"x8") along with the translated English Companion Guide (70 pages) is available from the author at $27.50 U.S.

Hans-Jurgen Kuc, Alte Landstrasse 156, D-2000 Hamburg 63, West Germany.

CONTAX (Model One) DIFFERENTIATING GUIDE - A guide to the Contax (black enamel) variants using the differences in front cover plate shapes, which was mentioned in the last issue, is now being expanded into a co-authored article to be published in future issues. In the meantime, H.J. Kuc's book includes a direct-reading chart to disclose the variations made in March 1932, October 1932 and so forth to the end of 1935.

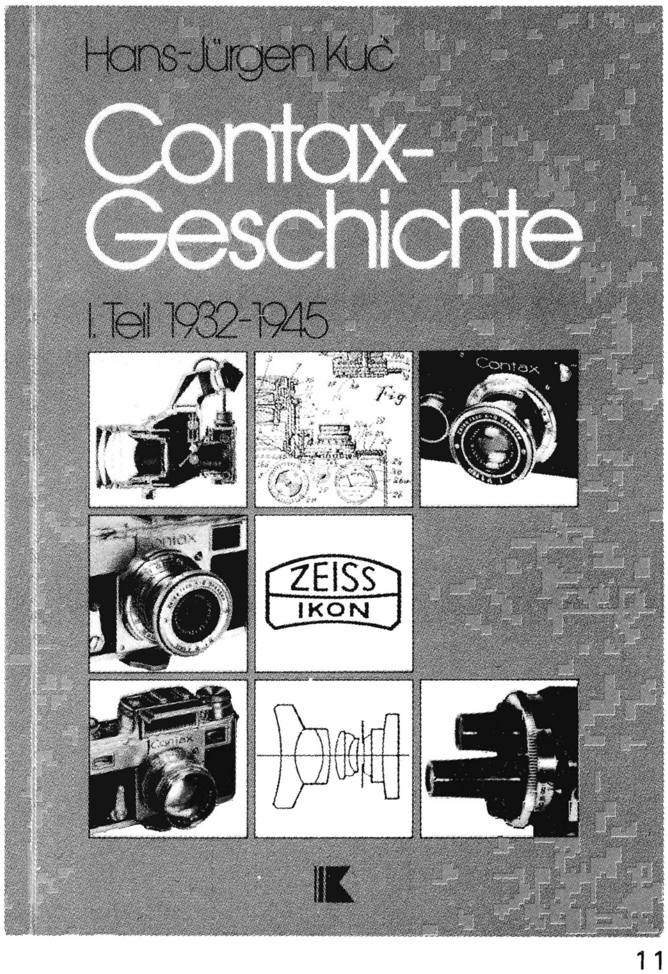
COLLECTOR'S HINTS - Several collectors have mentioned ideas which may assist those looking for Zeiss collectables. Your editor has found that classified ads in newspapers receive better responses when the ad specifically asks for "Zeiss" items instead of the usual "old cameras". Ads that are keyed to specific items seem to engage owners of those items more than any of the ads for "old cameras wanted".

It was also mentioned that substantial photographic outfits will occasionally be disposed of through estate lawyers handling a sale, in fact, the more patrician the estate, the better the chance that lawyers are involved. So letters, or cards sent to likely firms may bring a surprise call that some old cameras, microscopes, etc. are included in an estate. The wonderful Contax set seen on this page (and at several photographica fairs this year) was bought up upon a call from estate lawyers.

Most replies mentioned that having an honest interest in the history of Zeiss, and letting as many people as possible know about it are the keys to success.

BRAND Z LENS - For years a famous series of ads ran, "When better cars are made, Buick will build them". Now we can say "When Super Elmars are made, Zeiss will build them". This first came to our attention when Z-H founder, Tom Schreiner noted a strong sensation of "deja vu" when looking over specifications and lens-cutaways of the 15mm f3.5 Super-Elmar-R objective for Leitz reflex cameras introduced at Photokina '80. When he placed the lens diagrams and specs for the Zeiss Distagon f3.5 - 15mm beside the Super-Elmar it seemed to become a case of double vision. Actually, sources within the Leitz organization confirm that Super-Elmar was indeed born Distagon, and we wish them every success.

In the same vein, the editorial comments in vol. 3 no. 1 about the present-day Yashica-made Contax SLR cameras using Oberkochen-made lenses provoked both some negative and positive comments, however the most positive point will come if rumoured new lenses for the Contax-Yashica do appear from Oberkochen during 1982. The viability of the photographic lens design department would be much more difficult if these modern day Contaxes did not exist.



10 Objektive

vom Ultra-Weitwinkel f = 2,8 cm bis zur Tele-Brennweite von 18 cm — und bis zur Ultra-Lichtstärke 1 : 1,5 sind in den guten Photohandlungen

in aller Welt

zu haben. Diese zehn listenmäßigen Objektive in der patentrechtlich geschützten Bajonettfassung, für Auswechlung buchstäblich im Handumdrehen, passen an jede Contax — ergeben ohne weiteres, ohne besondere Anpassung sofort scharfe Aufnahmen. Lassen Sie sich in Ihrer Photohandlung die instruktiven Werke geben über die

C O N T A X

ZEISS IKON