ZEISS HISTORICA

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

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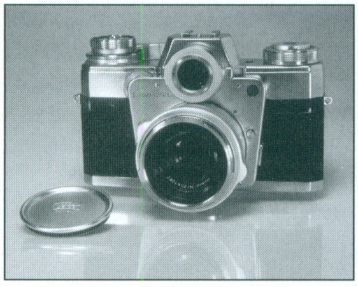
On The Covers



Front Cover: What is so different about this camera? See page 23 for the answer! (Photo by Lars Sundberg of Kiperhaantie, Finland.)
Back Cover: Super Nettel advertisement, from *Photo Art Monthly*, October 1934. (Provided by Charles Gellis, Roslyn Heights, NY.)

Illustration Sources

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Pages 3 - 6 and 20: Jack Kelly
Pages 7 - 9: Oberkochen Optical Museum
Pages 10, 11: Zeiss archives
Pages 16 - 19: Nick Grossman

PRESIDENT'S LETTER

I mentioned in previous correspondence that Zeiss underwent a thoroughgoing reorganization a few years ago when Dr. Grassmann, formerly of the Siemens group, took the helm. Among other changes the Photo and Electronic Systems Lens group was split, separating the important and profitable microchip lens production division from more conventional photo lenses, which now have to pay their own way.

The new Camera Lens Division Vice President is Ralf Coenen, assisted by his PR sidekick, Kornelius Fleischer and the Product Development Manager, Dr. Winfried Scherle. These three and the rest of their team are young, dynamic, and bring a revolutionary approach to their jobs: that someone must be convinced to buy the lenses that Zeiss spends so much time and effort designing and making. Fleischer has been given the job of convincing potential buyers to make the greater investment needed for these excellent, but expensive, lenses.

What makes this a new story is that, historically, Carl Zeiss, the lens and instrument maker, never sold lenses to the public. That was always the job of the camera makers to whom Zeiss sold their lenses—now down to essentially Hasselblad in medium format, Yashica/Kyocera for 35mm and video, and Arnold & Richter for 35 and 16 mm movie. (Sony is now also placing Zeiss lenses on their top-line video equipment in Japan.) Gone are a host of other brands, including Rollei, Ihagee, Linhof, and of course Zeiss Ikon, that used to keep Carl Zeiss lenses in the public eye.

As you may have read by now, Zeiss introduced literally dozens of new lenses at Photokina this year. Not only do we have entirely new lens families for Hasselblad and new glass for other markets, but also a range of beautiful lenses for a brand new 645 Contax camera line from Kyocera. I am told there is an even more startling development to be announced at Photokina, too dramatic to divulge to anyone now (I'm writing in mid-August.) This is truly a breath of new air coming from the venerable, conservative firm we revere. I can't think of a step Zeiss more needed to take, and I'm thrilled at the developments. We'll be covering the whole story in greater detail in a future issue.

Those who are interested in knowing more about Zeiss lenses should contact Kornelius Fleischer. He publishes "Camera Lens News," a modest, pithy quarterly in English that talks about new developments, about maximizing results using Zeiss lenses, and many other concerns. CLN is available for free (!) via the medium of your choice. Contact Fleischer at Zeiss (D-73446 Oberkochen, Germany; FAX: +49 (7364) 20-45-40, e-mail: y.maier@zeiss.de) Tell him you got the information from Zeiss Historica. We're trying to show Zeiss that we are a group to be listened to.

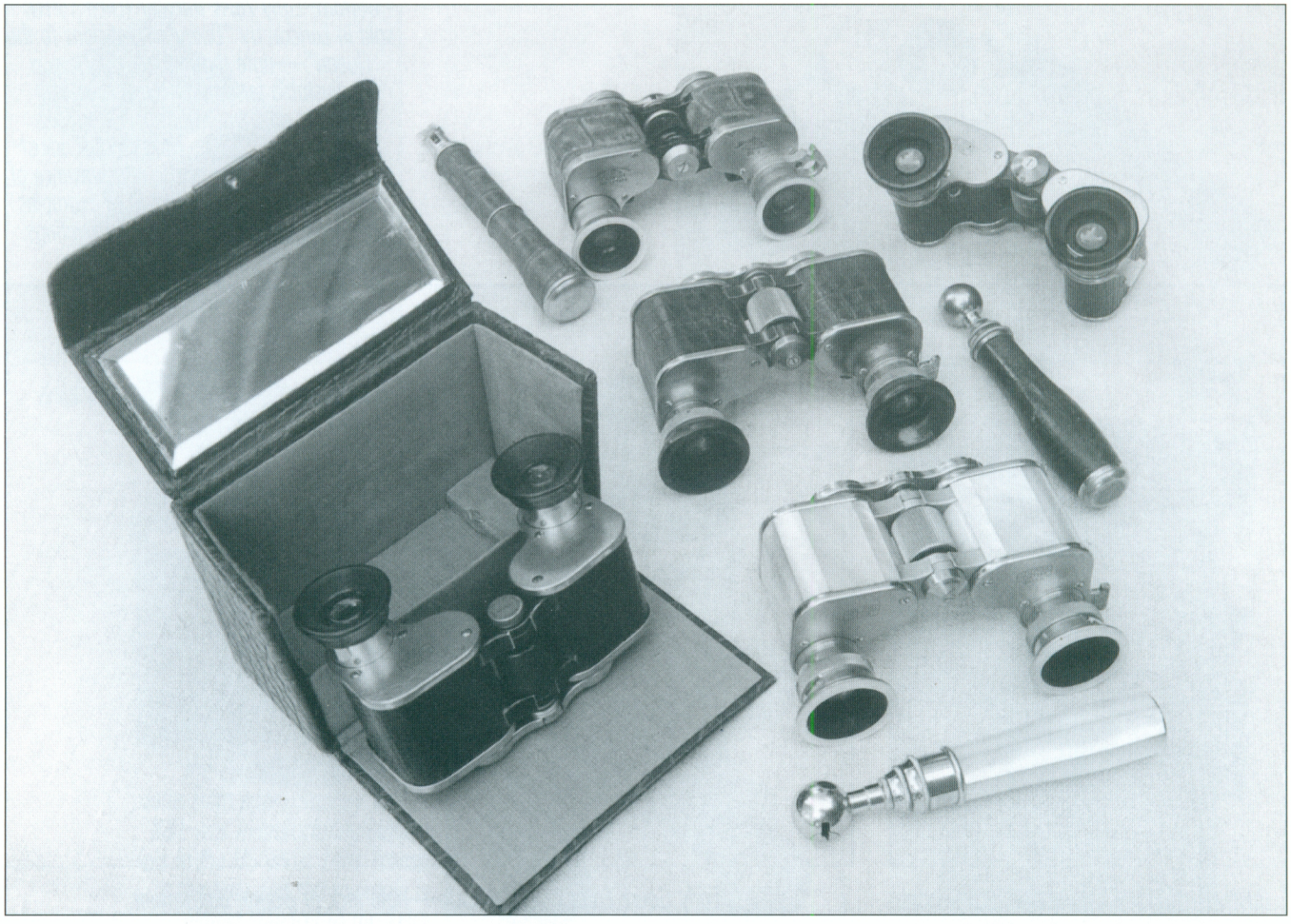
Charlie Barringer

Zeiss and the Teleater

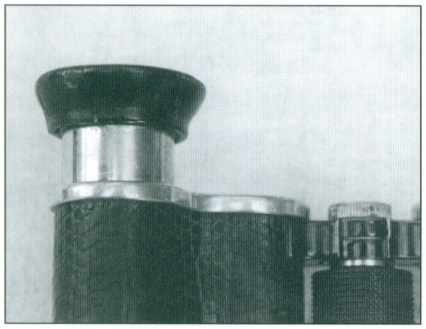
Jack Kelley, Oregon City, Oregon

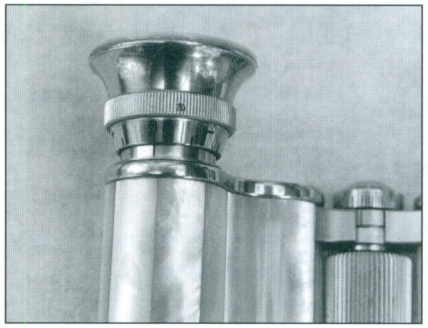
Those of you who have followed the various articles in *Zeiss Historica* over the years are aware of just how magnificent was the original binocular design by Zeiss. It is possible to pick up one of these very first models from 1894 and immediately feel comfortable and familiar with the instrument. Amazingly, with the possible exception of field of view, these first binoculars perform on a par with many of today's glasses.

Unable to claim patent protection based on the Porro prism design, Zeiss came up with the idea of patenting the "plasticity" or enhanced stereo effect produced by objective lenses that were placed wider apart than the oculars. This in turn forced most competitors to design binoculars where the objective lenses were set at the same approximate spacing (or less) as the human eyes so as to not violate the Zeiss patents. This curious twist of fate subsequently led Goerz, in 1903, to introduce an interesting $2^{1}/_{2} \times 12$ theater glass whose design lived well beyond the life of the Zeiss patents and in fact became the basis for the wonderful little Zeiss glass

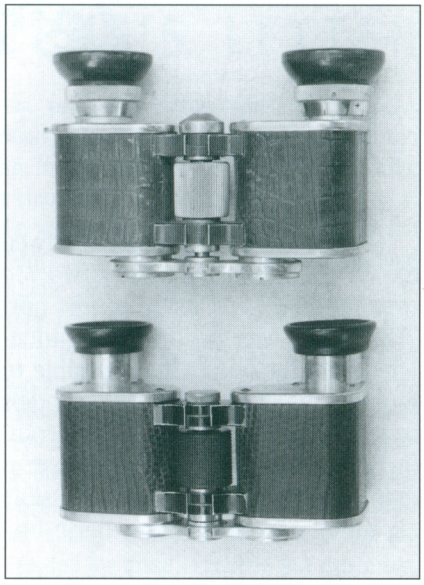


Left: Zeiss Teleater (gold with lizard skin covering) in "crocodile leather case"
Center Top: Busch Thaliar with handle (gold with crocodile leather covering), Center Middle: Zeiss Teleater with handle (gold with crocodile skin covering), Center Bottom: Zeiss Teleater with handle (gold with mother of pearl covering)
Right: Zeiss Teleater (gold with lizard skin covering)

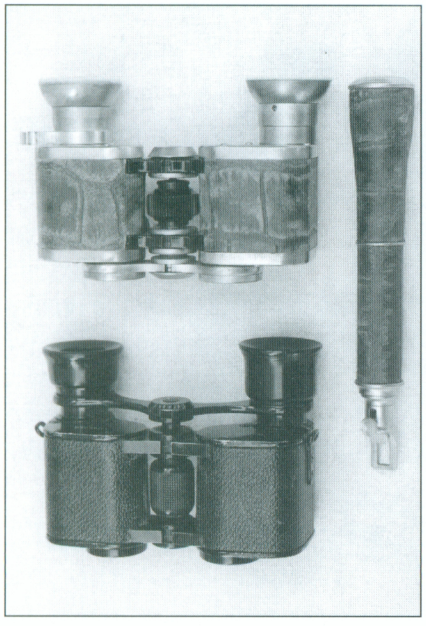




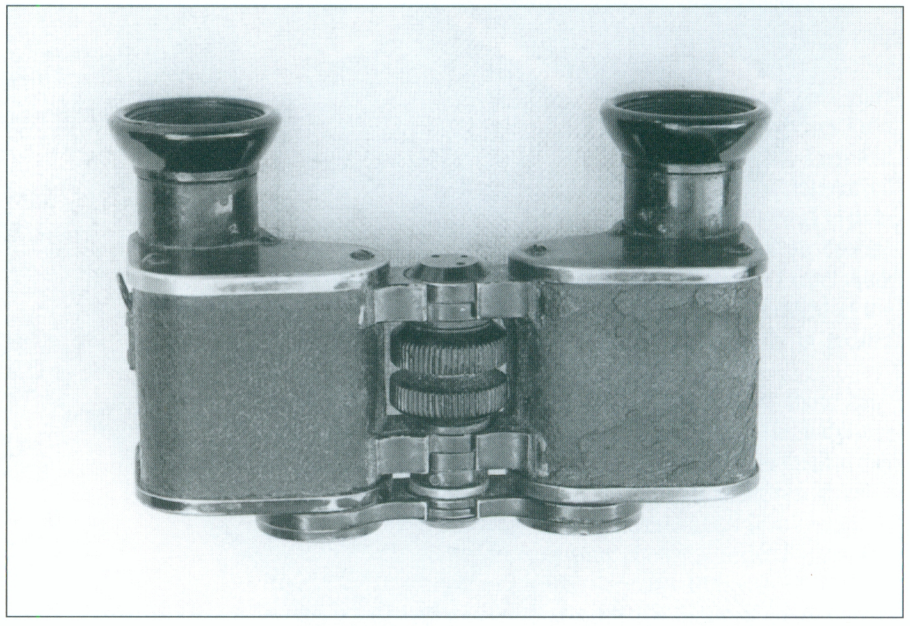
Detail of early (left) and late (right) Teleater oculars. Note the absence of the diopter adjustment in the early model.



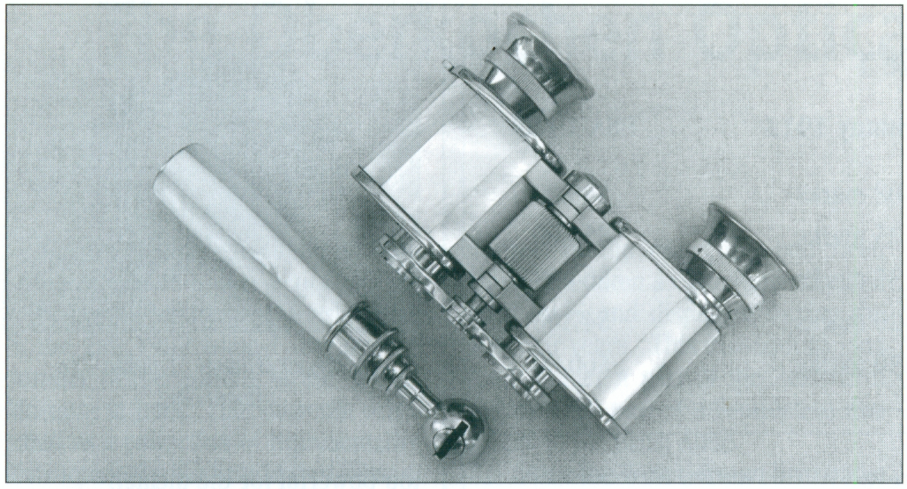
Bottom: Early Zeiss Teleater (circa 1910) sold in London by "Dixey", "Opticians to the Queen"—note that neither eyepiece is adjustable for differences in the eyes (diopter adjustment). Top: Later Zeiss Teleater (circa 1930) Note diopter adjustment scale on left eyepiece and presence of additional detail and trim. Both examples are gold plated with lizard skin coverings.



Busch Thaliar 3x12 early and late—note the change from focusing oculars in the early design (bottom) to the more "accepted" design of focusing objective lenses in the later version.

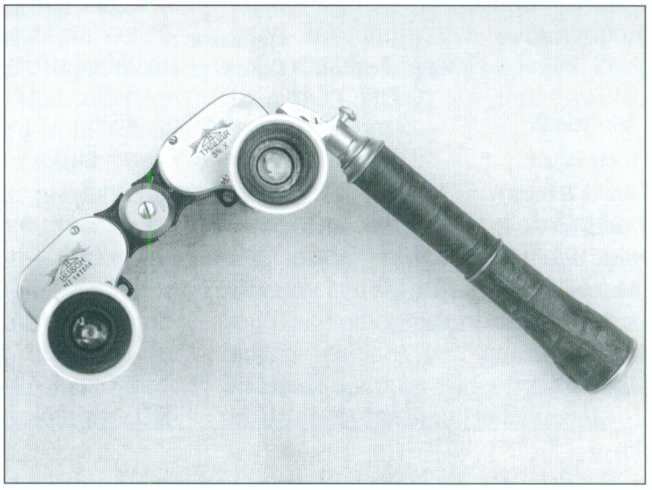


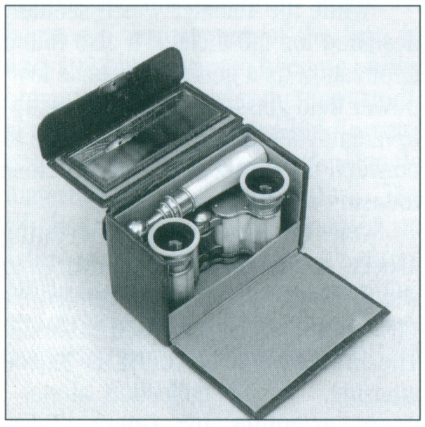
Early Goerz Fago Trieder Binocle—note lack of diopter adjustment.



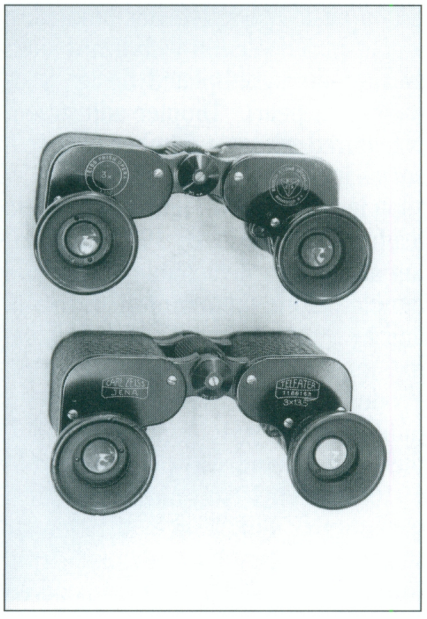
Zeiss Teleater (circa 1927) in mother of pearl and gold plate.

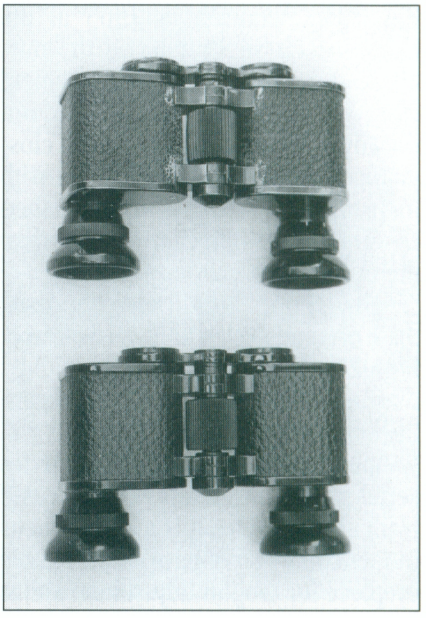
Busch Thaliar in gold with crocodile leather covering showing placement of the handle.





Zeiss Teleater in crocodile leather case





Top: B&L–Zeiss Prism Opera 3x. This piece carries both the Zeiss and B&L logo and dates from approximately 1912. B&L was manufacturing binoculars in the US under Zeiss license at the time and this example is almost identical to the Zeiss Teleater including interchangeability of eyecups. Bottom: Zeiss Teleater

Table 1

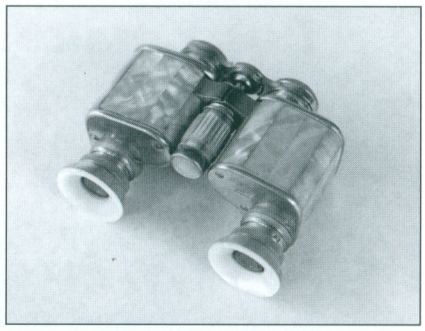
	Germany 1912	USA 1926
Teleater, Black	108 marks	$45.00
Teleater, Lizard and Gold	125 marks	$50.00
Teleater, pearl	135 marks	$64.00
Teletur	120 marks	$47.00
Silvamar 6×30	150 marks	$60.00

Table 2

	Magnification	Objective Diameter	Exit Pupil	Field of View feet/1,000 feet	Weight
Zeiss Teleater	3 x	13.5 mm	4.5 mm	240	7.5 oz
Goerz Fago	3½ x	15 mm	4.5 mm	200	8.5 oz
Bausch & Lomb	3 x	12 mm	4.0 mm	243	7.5 oz
Leitz Binar	3 x	13.5 mm	4.5 mm	240	8.0 oz
Oigee Oiglet	3 x	13.5 mm	4.5 mm	230	7.1 oz
Kershaw Dainty	4.5x	14 mm	3.1 mm	180	9.0 oz
Ross Prism Opera	3 x	13 mm	4.3 mm	200	6.25 oz
Busch Thaliar	3.5x	15 mm	4.5 mm	205	7.0 oz
Zeiss Teletur	6 x	15 mm	2.5 mm	123	7.375 oz

called the Teleater. As it happens, the Teleater was my very first "collector" binocular, acquired in 1963 at the expense of a slight delay in the purchase of my future bride's engagement ring. This design is characterized not only by objectives that are placed closer together than the oculars but with focusing almost always accomplished by moving the objectives rather than the eye pieces.

By 1906, Goerz had improved their original design and were offering both 2½×15 and 3×15 models named the Fago. According to Hans Seeger,[1] the Teleater first appeared in 1909. A sample from my collection carries serial number 184044, which dates it from about 1910. It is a center-focus binocular, does not have an adjustable eyepiece for diopter adjustment and is plain by comparison with the later versions. By 1912 the Zeiss catalog lists a basic black Teleater binocular, a gold-plated version with lizard skin, and another gold-plated design with mother of pearl. Diopter adjustment is featured, as are a number of accessories including a "silk plush bag," a "soft leather pouch," and a "crocodile leather flap case." By 1914 the catalog also lists a detachable collapsible handle for the mother-of-pearl model and by 1923 the handle was available for the lizard-skin version as well. Production of the Teleater continued until at least 1931. A similar model, the 6×15 Teletur, was produced from 1910 through 1924. Almost identical in outward appearance, the Teletur was never offered in "deluxe" trim, probably because it was considered too powerful for the theater.



Colmont (France) "Catalina" 3x Opera Glass

The Teleater was never an inexpensive glass; see Table 1.

While the Teleater was essentially designed for the theater, it also found application as a general purpose low-power field glass. Accessory telescopic magnifying lenses were available to convert the binocular into a close focusing magnifier.

One of the more interesting aspects of this design is the degree to which it was copied and refined by various manufacturers (see Table 2). The proliferation of copies is indeed amazing. In my collection alone, I count examples by: Goerz, Zeiss, Oigee, Leitz, B&L, Busch, and at least two unknown makers. In addition, Huet, Voigtländer and Ross also offered their versions. Even into the 1950's and 60's, remnants of this famous design can be found in binoculars from Hertel and Reuss, Hensoldt, Rodenstock, Hoya and the popular Bushnell Custom Compact 6×24.

The fact that Zeiss's design of the original binocular has remained almost unchanged after 100 years is a remarkable engineering accomplishment. Zeiss's ability to recognize and respond to a competitor's creative alternative to the Zeiss patent-protected design is certainly a compliment to their marketing skills.

1 Seeger, Hans T.: *Feldstecher Fernglaser im Wandel der Zeit*, Bresser Optik, 1987

The Oberkochen Optical Museum

Last year, I was fortunate to have toured Germany's two major optical museums, at Jena and at Oberkochen. In the Fall 1997 issue I discussed a number of the exhibits in the Optical Museum in Jena. That museum originated as a collection of representative instruments by the firm of Carl Zeiss at the beginning of the 20th century and was a private collection used for reference by the scientific staff. It became a formal part of the firm in mid-1922 but began to become public only when it was given the opportunity to purchase two incredible private collections of eyeglass/spectacle materials in the mid-1930's. The whole collection was dispersed to safer locations during the Second World War but was later reassembled and first publicly displayed in a permanent collection in Jena in 1965. A portion of the collection had been found and taken as war reparations in April 1945 and dispersed during the post-war years. This museum in Jena is no longer a part of the Zeiss firm but rather is part of a Foundation that is named for Ernst Abbe.

Since the West German firm had a strong sense of history, they began to put together a representative collection of Zeiss and other historical items in the post-war years. That collection has recently been moved from a small building in Oberkochen into the main floor of the corporate headquarters there. It shares floor space with another large collection—the current cream of the product line—in a location called the Innovation Room. Close by is the new home of the Optical Museum Oberkochen, which is the property of the Stiftung (Carl Zeiss Foundation) and shows a completely different exhibit of the history of optical instruments of the last 700 years. This museum has similar highlights to the Jena museum, but also addresses many of the innovations that were produced after the war for the American space program, their highly aggressive postwar product lines and innovative photographic products for Hasselblad, Rollei, Zeiss Ikon and Contax.

The accompanying pictures show the historic qualities of the new Oberkochen Optical Museum of both Zeiss and other historical manufacturers in spacious new quarters. The museum operates under the direction of Dr. Hans-Joachim Hinkelmann.

—LG

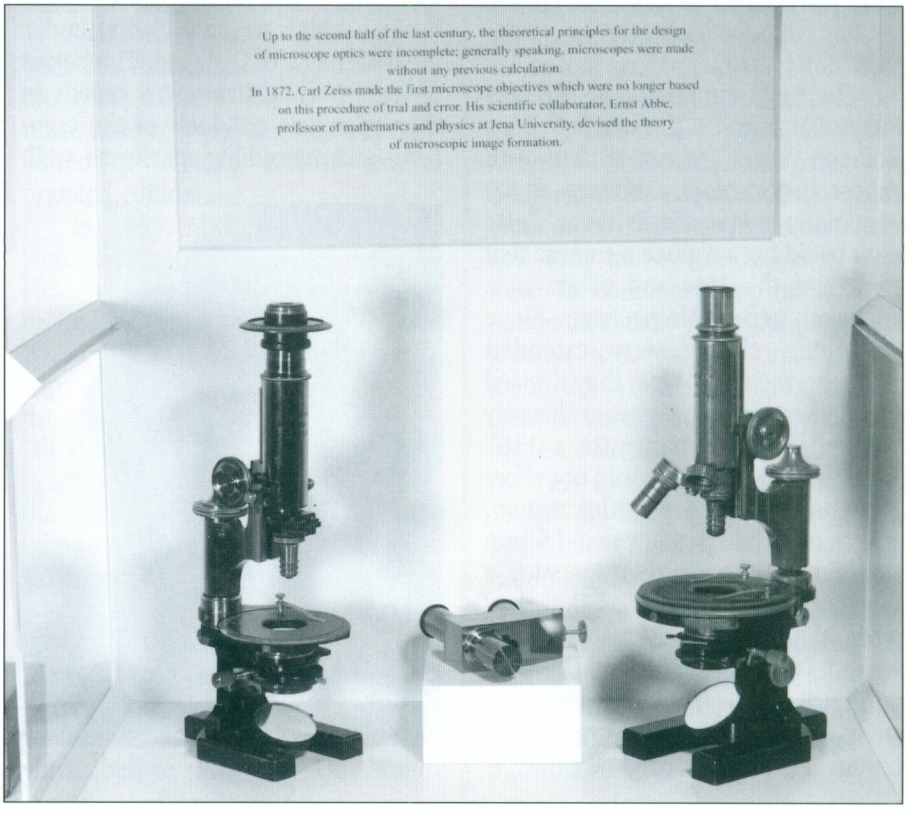
On the left are sculptures of Zeiss, Abbe and Schott, while in the foreground are some of the breakthrough instruments of the post-war Zeiss microscope department. More historic photographic equipment is in the wall displays.

In the foreground you can find historical early telescopes and documents related to them while samples of the spectacular space program pictures and the Zeiss instruments and lenses that were responsible for them are exhibited around the walls. In the left rear are more historical photo lenses, and on the counter in the middle is the over-the-counter Zeiss Ikon Contarex mock-up used for the first orbital extravehicular photo session.

The microscope portion of the museum shows breakthrough instruments of the past and the more recent innovations. On the right table are the Axiophot and the Ultraphot of Kurt Michel and the left table shows one of the versions of his Standard design as well.

These are a portion of the exhibit honoring the work of optical craftsmen before the development of the modern prism binocular in 1894 by Ernst Abbe.

The exhibit also shows the Hasselblad Superwide and cut-away and demonstration versions of some of the innovative Zeiss lenses of the very recent past.



Two late 19th century Abbe-designed microscopes with a special "stereoscopic" viewing apparatus also by Abbe.

Zeiss Personalities

These two articles begin a series about those Zeiss scientists who were at the forefront of innovation with regard to the remarkable series of optical and other scientific breakthroughs by the various Zeiss firms over the history of the firm. I am beginning with the more current of these innovators and will later go backwards to capture those now more historically noted individuals closer to the era of the founders: Zeiss, Abbe and Schott.—LG

Dr. Erhardt Glatzel

I have written often in these pages about the great lens designers in the days of Zeiss past. Well, besides Paul Rudolph, Hans Harting, Ernst Wandersleb, Willy Merte, Robert Richter, Ludwig Bertele and Hans Sauer, there is a new "old timer" in this field. It is Erhardt Glatzel, who worked on the major wide-angle designs that were such an important part of the lens family for the Contarex, Contax SLR, Hasselblad and other not so familiar cameras. In the last few years, he has begun his retirement in Germany.

The most famous of his designs was the Hologon. The original Zeiss Hologon was a 15 mm *f*8 lens with almost distortion-free images which was totally unique for its time. Zeiss Ikon could not produce a camera that could use this lens and others in a financially acceptable package. Since the optics clearly were extended almost to the film plane, they devised a Contarex clone that was exclusively devoted to this camera with a 110° angle of view. Since it could not effectively use a single-lens-reflex system, this camera had a dedicated 15 mm viewfinder. Because this was such a specialty camera and Zeiss Ikon had other difficulties with sales at this time, this camera did not sell well during its first lifetime. However, today it is a prime collectors' item costing 4-5 times its original price.

Since Carl Zeiss had a plentiful supply of these unsold lenses, it agreed to supply them to Leica for the M series of cameras, and so this lens has come into a second, limited life as an available product and collectors' item. More recently it has become available for the new Contax G-1 and G-2 cameras.

This lens alone would have brought fame to its designer, but over his design career he was responsible for many innovative wide angle designs which we can all find under the trademark of Distagon. This series of lenses brought new low speeds to the wide-angle products of the company and incredible clarity as well.

GLATZEL

He was also responsible for the 50 mm Planar *f*0.7 and the superb Macro-Planar, which is the detail lens for all serious close-up photography.

As all Zeiss optical designers did, he designed other optical systems for other devices including such unglamorous items such as copier optics and inspection optics for computer chip design and manufacture. These don't provide great pictures but they keep famous firms in multiple lines of business and profitable.

Our thanks to Dr. Glatzel for his lenses and the thousands/millions of great photographs that he is responsible for.

MICHEL

Dr. Kurt Michel

On January 9, 1909, Kurt Michel was born in Meiningen. This town was on the Werra River, not far away from the Thuringian forest which was located near the home of the firm Carl Zeiss in Jena. After receiving a doctorate in natural science from the University of Jena and working as a student teacher, he answered an advertisement in a scientific journal for a Biologist. As a result, he applied for the position and was selected out of 120 applicants to join the firm of Carl Zeiss. He was taken on as a collaborator by the world famous Zeiss scientist Professor August Köhler, just as Köhler had also been selected by Ernst Abbe in 1900. Köhler had deeply influenced the field of microscopy in the first decades of this century and was already 68 when Michel began to work with him. At that time the scientific leadership at Zeiss was divided into two parts, with Köhler as head of microphotography and microprojection and Professor Henry Seidentopf as head of microscopy. However, these two scientists often crossed projects with each other over nearly 35 years of working for the firm.

Michel would become a department leader when Seidentopf retired in 1938, and the two departments were united under the leadership of the now 73-year-old Köhler. Michel was quickly becoming a key player in new projects. In 1937, he presented his first important design, the Ultraphot, which was a large camera microscope that would be followed, after the war, in 1955 by the Ultraphot II. Both cameras were significant breakthroughs that permitted the use of Köhler illumination even at low magnifications. This totally self-contained apparatus used the principle of modular construction, which gave it a wide range of uses and took the documentation of specimens to a new photographic level. He also worked in the difficult field of making moving picture microphotography. This led to another new apparatus in 1939 with time lapse photography; he also defined the need for new filament lamps which became new low-voltage norms for both microscopes and projectors. His first efforts in making such films are still considered among the best micro-cinematic disclosures.

In 1938, Michel became Köhler's deputy and took more and more technical and managerial responsibility. He was responsible for the instructions on the use of new instruments and, later, produced two landmark books on the microscope: *The Basics of Photomicrography* (1940) and later *The Essentials of the Theory of the Microscope* (1957). These volumes were very popular but only published in German and in several updated editions.

In 1945, Michel and his family were evacuated by the US Army to Heidenheim when Jena was given over to the Russian Army. Since Köhler was 79, he was too old to consider such a trip. At first, Michel was involved in the construction of a Zeiss factory in Oberkochen. However, due to the death of Dr. A. Erlinghaus, he became the scientific head of a Zeiss sister company, R. Winkel, GmbH in Göttingen under Dr. Gerhard Kuhn who would later become a member of the Zeiss board of management.

In Göttingen, Michel found an intact factory with the tools to put into form the ideas that he had in his head since before the war. Dr. Walter Kinder developed the W microscope in Oberkochen while Michel started to develop the "Standard" microscope, which was another modular constructed instrument that could be adapted for all kinds of applications. In 1947, after only three months in Göttingen, he offered three working prototypes and one year later the first examples of this instrument were ready for delivery. His new microscopes were groundbreaking compared to the contemporary market and provided the impetus necessary to the firm's profitability in the microscopic field. He returned to the home office in Oberkochen in 1954 and soon produced his new Ultraphot II and the Photomicroscope. These were a sensation since, for the first time in any camera, they applied automatic photoelectric exposure control. His Standard series actually lowered the cost of accessories and made Zeiss the world leader in microscope development for many years to come. Almost all accessories and parts were designed to be circular, which makes them more easily machined on a lathe and thus more economical to produce. He continued his product development for many years and among his greatest was his large scale instrument, the Axiomat, which combined extreme mechanical stability with the highest optical quality and adaptability. This was nicknamed the "Michel Tower" by his colleagues and is the highpoint of the four decades of innovation and achievement.

After 40 years of continuous achievement, Dr. Michel began his retirement in 1974 and, at this writing, is living in a retirement home after leaving a considerable legacy of innovation.

Wolfgang F. Jacobi

Manfred Herrmann, Frankfurt, Germany

Every serious collector of Zeiss and Zeiss Ikon collectibles is familiar with names like Dr. Heinz Küppenbender or Ludwig Bertele. But who knows the designers which put the ideas of the very famous names into reality, improved and fine tuned them and added ideas of their own? ZHS member Manfred Herrmann interviewed Wolfgang F. Jacobi, Cologne, who was a designer at the Zeiss Ikon AG in Dresden from 1931 to 1938. This interview first appeared in the original German in Photographica Cabinett 13/98, and appears here with permission. The translation is by Herrmann.

Wolfgang F. Jacobi was born in Dresden on December 23, 1913. From 1931 to 1938 he was a designer at the Zeiss Ikon AG in Dresden. His primary area of activity was the scientific products associated with Contax photography, but his work also includes many Contax accessories that are now sought after by Contax collectors. The result of his work is well documented in the 1938 Zeiss Ikon Catalogue "Contaxphotographie," which also shows some of his photos.

Today, Jacobi enjoys his well deserved retirement in his nice home in Cologne. He is not a camera collector himself, but numerous well done 35 mm photos—blown-up to 40x60 cm— are clear evidence that photography has always fascinated him.

He still supports the history of photography, especially 35 mm photography, through his many visits to Dresden where he is actively involved in setting up and improving the "Technische Sammlungen der Stadt Dresden" (the Dresden Museum of Technology). The museum was originally founded in the former German Democratic Republic and is a perfect reflection of the city's and the state of Saxony's technological history.

Jacobi gives some useful hints for visitors: The "Technische Sammlungen der Stadt Dresden" is located in the new Ernemann factory built in 1923 with the now famous 150 ft high tower (reflecting the Pentacon trademark). The address is Junghansstrasse 1-3, at the corner of Schandauerstrasse 48, in Dresden-Striesen. The camera collection is heavy on the German camera and movie industry and is most probably Germany's most important. The hours are from 10 a.m. to 6 p.m. Tuesday through Sunday (the tower is accessible!). The next day can be used for a day excursion to Prague to visit the Czech National Museum which also has a very important still and movie camera collection.

Question: *Mr. Jacobi, what led you to Zeiss Ikon in Dresden, and how was your development there?*

W.F.Jacobi: Born in Dresden, in 1931 I was an apprentice tool-maker at Zeiss Ikon, in the old Ernemann building, and graduated as a journeyman. At that time, it was Zeiss Ikon's standing custom to recruit the most talented apprentices for their development lab. This is how I was recruited for the camera lab—its showpiece was the movie or motion-picture lab.

Q: *What were the objectives of this lab?*

WFJ: The objective of this lab was the testing of prototypes of still cameras, lenses and other equipment with regard to optical and mechanical quality, light tightness and shutter accuracy. In addition, samples from the ongoing production were systematically checked and re-checked. Beyond that we also dealt with the improvement and further development of the Contax camera, which had been launched in 1932 with special regard to the so-called WICO, the WIssenschaftliche COntax photographie (scientific Contax photography).

Q: *This area of the famous Contax seems to have drawn your special attention. Can you tell us more about it?*

WFJ: With pleasure. On the 1936 Leipzig Spring Fair Zeiss Ikon had their own booth—which I took care of—exclusively for the WICO. This booth was even visited by Mr. Ernst Leitz Jr.—who unfortunately passed

Wolfgang F. Jacobi today. Picture taken by Manfred Herrmann on October 3, 1997

ZEISS IKON

ZEISS IKON AG. DRESDEN

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Zwischenzeugnis.

Bei Antwort bitte angeben!

Ihre Zeichen	Ihre Nachricht vom	Unsere Zeichen	Tag
		Sekr.Sch.K.	11. Juli 1938.

Betrifft:

Herr Wolfgang J a c o b i , geboren am 23. Dezember 1913 in Dresden, trat bei uns am 24. November 1931 in unsere Lehrlingsabteilung ein, um eine Ausbildung als Feinmechaniker zu erhalten. Geeigneten Kräften geben wir die Möglichkeit, in unsere Laboratorien überzugehen und so trat Herr J a co b i ab Juli 1934 in das Cameralaboratorium ein. Er wurde in dieser Abteilung weiter ausgebildet und legte im März 1935 seine Gesellenprüfung als Feinmechaniker ab.

Während seiner Laboratoriumstätigkeit wurde Herr J a c o b i mit Prüf- und Versuchsarbeiten beschäftigt. Diese Arbeiten bestanden sowohl aus konstruktiven Entwicklungsarbeiten als auch aus technischen Messungen und Fabrikationskontrollen. Daneben arbeitete er sich mit grossem Erfolg in die verschiedenen Zweige der Photographie ein, u.a. in die Mikrophotographie und wissenschaftliche Photographie.

Seine gute Auffassungsgabe und seine technischen Kenntnisse ermöglichten es ihm, die ihm übertragenen Arbeiten zu unserer vollen Zufriedenheit zu erledigen. Auch sein Fleiss und seine Ausdauer bei der Durchführung der gestellten Aufgaben sind zu erwähnen. Mit seinen Leistungen sind wir sehr zufrieden, auch ist sein Verhalten einwandfrei.

Herr J a c o b i verlässt seine Stellung bei uns auf seinen eigenen Wunsch hin.

ZEISS IKON AG.

Meisteraufnahmen durch diese drei: Zeiss Ikon Camera, Zeiss Objektiv, Zeiss Ikon Film!

Alle geschäftlichen Mitteilungen erbitten wir unter der Adresse der Firma ohne Angabe einer bestimmten Person

A letter of reference from Zeiss Ikon AG, Dresden, for Wolfgang F. Jacobi, dated July 11, 1938 . The signature on the left is Alexander Ernemann (the son of the founder of Ernemann and a famous cinematic designer) and on the right is Professor Herman Joachim.

away so early—since, for scientific applications, the Contax was by far superior to the Leica. The concept of presenting WICO at fairs advanced to that of a touring exhibition with lectures held by Professor Dr. Horst Wachs for a professional audience such as medical people. The first of these exhibitions was held, I think, in Breslau in 1937. The individual areas of Contax photography, for example, microphotography, were presented in different booths. The complementary medium was the scientific magazine *Photographie und Forschung* (Photography and Research), published by the Zeiss Ikon AG.

***Q:** Above and beyond this you also coped with the more "mundane" areas of Contax photography, and numerous accessories listed in the 116-page 1938 Zeiss Ikon catalogue "Contax-Photographie" were designed or improved by you. Which of these items do you like to remember best?*

WFJ: There are quite a few. Take for example the tripod mount on p. 68 of the just mentioned 1938 catalogue. The rifle stock for the Olympia-Sonnar 180 mm *f*:2.8 (also pictured on p. 68) had been prohibited because of suspected assaults on Hitler—the rifle stock resembled too much a true rifle. Hence it became necessary to develop something new, namely the mother of all breast tripods. Or take the Trix cleaning and binding appliance for 5×5 cm slides (1601/3) on p. 86 of the catalogue. In 1936, color photography got going, and hence the number of 5×5 cm slide frames increased. For that reason I developed Trix (the trademark had earlier been used for an Ica press camera, but I used it for a process and product to bind 35 mm slides into a glass housing) which prevented the disturbing Newton rings from occuring.

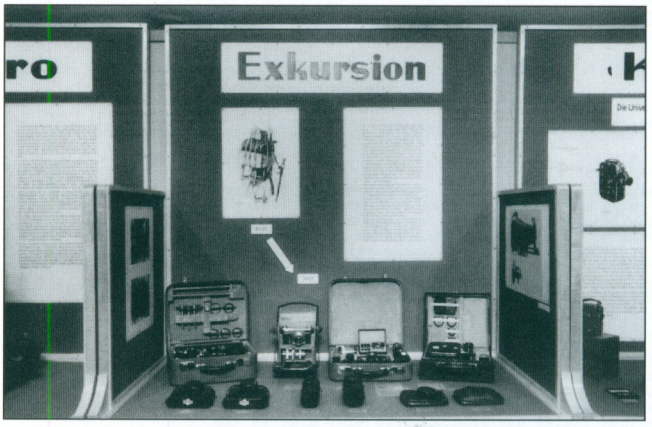
By the way, the subject of trademarks was quite interesting. There was, of course, a list of registered trademarks which could be made use of. The reflex housing trademarks "Panflex" and "Flektoskop," however, were coined by me.

***Q:** The famous and now much sought after Flektoskop also bears your signature?*

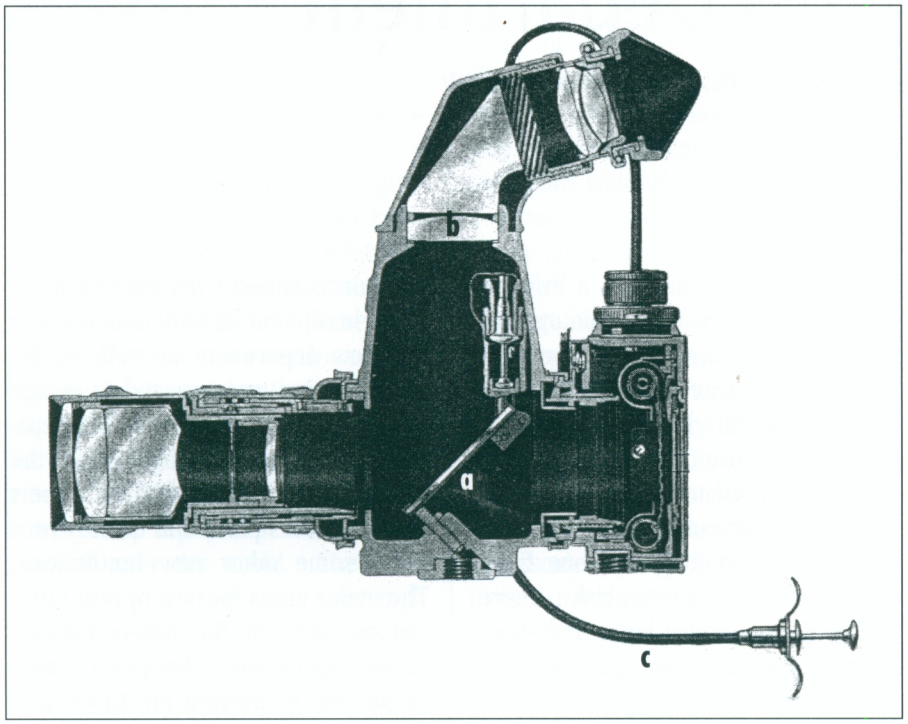
WFJ: Yes, and I remember vividly an incident linked to it. In 1936 I went, with a prototype I had developed, to the Summer Olympics in Berlin in order to take pictures from the so-called "Marathon-Sunday." On these Olympic games, by the way, it was the first time that finish line or "photo finish" photos were taken. The starter's gun triggered slow motion images to a Zeiss Ikon stereo camera, and films were then speed-processed by Agfa. One of the photographers was Dr. W. Riedel. Well, I made my exposures using the Flektoskop—my best photo of that day is on p. 38 of the 1938 issue of "Contaxphotographie"—but this first prototype did not yet permit direct viewing. So for every exposure I made, I had to stand up—with an appropriate reaction of the spectators sitting behind me! Back in Dresden on the following Monday, I ran into Dr. Küppenbender, the then chief designer and Zeiss Ikon CEO. I mentioned the problem I had experienced with the Flektoskop in Berlin, and suggested that I add a mirror above the prism in order to enable straight viewing. His answer was brief: "Yes, do it." So, this is how the first version of the Flektoskop was formed and made available on the market in about 1937. After the war, though, the mirror was replaced by a pentaprism.

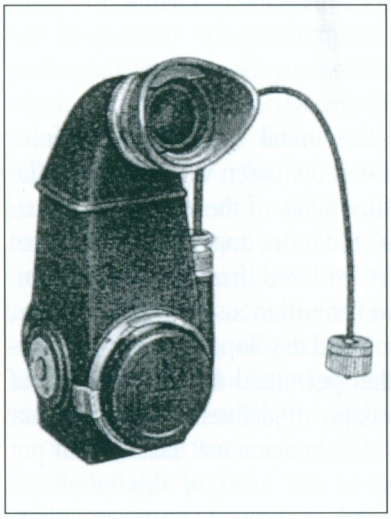
***Q:** Are there any other designs you would like to mention?*

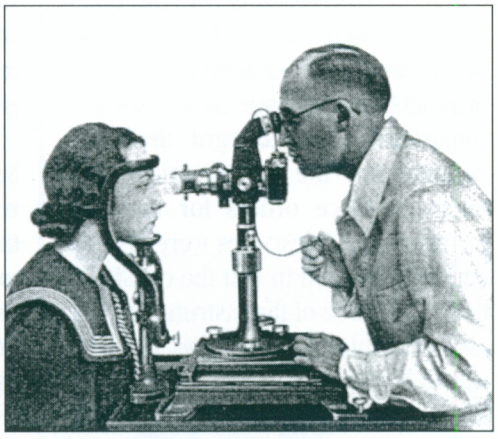
Jacobi in his lab in the "Cameralabor," June 1938. The box in the background behind his desk is the "light box," equipped with powerful bulbs in order to check light tightness of camera bodies. Photo: Erhard Loose, 1938.



Two of the booths used for the touring exhibition as described in the interview.







Top: The reflex housing PANFLEX, a device designed by Jacobi that provides real-time viewing for 1:1 image rendering as well as moderate enlargements or reductions. It has two outer bayonets, one for the Contax camera body, and the other one for the lens. The design of the PANFLEX, here shown with a Contax II, is shown on this illustration: a is the mirror which sends the image to the ground focussing screen b. Immediately before exposure, the mirror is moved out of the way of the light beams by using the cable release c, and the light beams are now directed to the film.
Bottom right: Eye photography at a Zeiss appliances board.
Bottom left: The PANFLEX reflex housing.

WFJ: Sure, there are more. For example, I am quite proud of the usage of the so-called dovetail, or swallow-tail, a device in Zeiss Ikon universal viewfinders to balance parallax distortion. Also, Professor Krüss from the Prussian State Library in Berlin needed a reader to read the books that had been microfiched onto Contax film. The result of my efforts was the Zeiss Ikon Ikoscop, possibly the ancestor of all microfiche readers. For the trademark, by the way, I received a bonus of five Reichsmarks, minus 4% income tax.

***Q:** Which cameras did you actually use yourself?*

WFJ: It started in 1927 when I got my first camera, a "cardbox" with lens and shutter in the 4.5×6 cm format manufactured by the Emil Wünsche company in Dresden. The camera was free when purchasing a pack of plate film. In 1927, I upgraded to a Zeiss Ikon Suevia 6.5×9 cm plate and film pack camera. The Suevia accompanied me throughout my apprenticeship, but as early as from 1934 onwards I used only the Contax, which was available to me because of my work.

***Q:** Finally, is there anything funny you like to remember?*

WFJ: There is something which springs into my mind. Willi Reichel, the Berlin dentist of the famous singer Zarah Leander, wanted to know from Zeiss Ikon how he could pictorially show his "work"—he was the VIP dentist of his time and created quite a few new crowns—in a spectacular way. I think with the aid of scientific Contax photography he was helped.

***Q:** Mr. Jacobi, I want to thank you for this interview.*

The Astro Department

Larry Gubas, Randolph, New Jersey

I have just noticed that this year is the 100th anniversary of the founding of the Astro department at Carl Zeiss, Jena. This is a short history of the department and a view of some of its more remarkable and collectible items. The illustrations are of consumer-based products from 1895 through the 1930's.

The development of Astronomical Instruments was very close to the personal interests of Ernst Abbe. As early as 1891, he had tried to put together a department for this purpose, but the firm lacked a person with all of the appropriate expertise to manage such a department. Dr. Siegfried Czapski, Abbe's personal assistant, would have been able to run this function, but he was so valuable as the major mentor across all of the firm that he could not be spared to do this. Earlier, Abbe did compute some unique objectives based on new Schott glass, which the firm gave to the Carl Bamberg firm in Berlin to build a large format telescope. (Bamberg was a former Zeiss apprentice who manufactured navigational aids and telescopes to support Prussian and German naval precision instrument needs.) Bamberg had been especially helpful in advising the Prussian government to assist Schott financially via a grant to develop his first new optical glasses. Finally, in 1897, Abbe convinced Dr. Max Pauly, who had already successfully built some large astronomical instruments, to take on this assignment on behalf of the firm of Carl Zeiss. This was not to say that Pauly could earn a living at this profession prior to joining Carl Zeiss since he was at that time the director of a sugar factory in the town of Liebenwerda. He and two of his employees there had gained some excellent experience in their part-time vocation of astronomy.

This undertaking was one filled with enormous business risk. There was little demand for large-scale telescopes, and the new glasses from Schott had not matured to the point that they facilitated this new direction in and of themselves. If this were to be a successful endeavor, the new products would have to be such a remarkable leap forward that they commanded the astronomical sciences to place orders for the new instruments. Telescopes were also an entirely new field in that the construction of the tube of the instruments was also something entirely new. The goal was to devise instruments for comparatively large objectives, with appropriate supporting mechanisms for the tube, various new devices to control the tube, and new instrument accessories—all yet to be developed. At first, Pauly and Abbe concluded a partnership agreement for this new business in July 1897 on the basis of mutual return and liability. However, just a month or so later, the contract was changed into an employment contract with salary for Pauly. On August 12, 1897, the formation of the new Astronomical Department was announced. Moritz von Rohr found it difficult to support his current functions in optical design and support this new department as well, so Dr. Hans Harting was engaged to design the telescopic objectives and eyepieces. However, Harting soon left the firm to work for Voigtländer. Albert König took his place and quickly provided some other new innovations. The major areas for new optical innovations were in the object glasses, mirrors and prisms. The construction of the tubes, moving the tubes into viewing position, housing the telescopes, building the housing of the telescopes were among the other problems.

The initial optical glasses from Schott & Genossen were not up to the requirements of these types of objectives, and more appropriate glass had to be ordered from a French firm. However, within a short space of time, Schott had developed other new glasses that permitted the construction of telescope objectives up to 650 mm (25 ½") in diameter. This quickly put Zeiss at the head of this small yet demanding line of business. When Franz Meyer joined the firm, he was the first graduate engineer at the Zeiss works. He helped to design the gearing and works of the devices themselves and many of the support mechanisms such as counterbalanced mounts, hour drives with high uniformity and co-ordinate measuring equipment. Meyer also had a profound influence with his ingenious construction ideas, which influenced

departments across Carl Zeiss in new manufacturing methods and devices. The new fine-focusing mechanisms on the line of World War I era microscopes were also his invention.

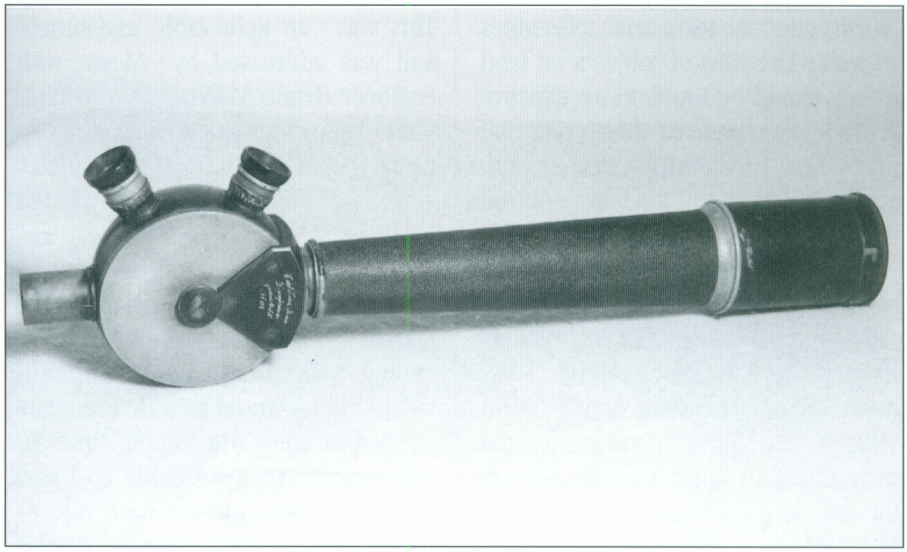
Soon, the Astro department published a first catalog. The main Astro catalogs were hard-cover books with 60–100 pages of descriptions and pictures and illustrations. There were also smaller soft-cover versions of the sections of the catalog that would be available as separate items. These astronomical devices and telescopes pioneered that industry and their commercial equipment was sought from all over the world. They also were able to secure some very high profile and demanding custom assignments from public and private observatories which demanded very large devices with huge lenses and very special features. These assignments required much development work, which paid off in knowledge gained to enlarge and innovate their commercial product line. Two of the first large-scale projects, which were responsible for much of their early fame, were commissioned by Abbe and the Stiftung for astronomical societies in the vicinity of Jena. It was important to have the first demonstration models in the neighborhood.

In 1902, the Swiss astronomer Dr. Walter Villager joined Pauly as his direct assistant and succeeded him on his retirement in 1913. This was a very specialized and small department with world class scientists working on the development of objectives, eyepieces, proper tubes, photographic devices, tracking and measuring devices that were groundbreaking devices which have become common place today. Their novel equipment and construction methods assisted in the growth of the manufacturing process across the entire Zeiss works. Many of their instruments from the first quarter of the 20th century are still in active use today. Their laboratory and testing center for large constructions was on the top floor of the company's main office building, where there was a dome 29 ½ feet in diameter. The manufacturing area was located elsewhere in the building. The department provided specifications for the customer's building and constructed some hardware for the surrounding environment, such as permanent and moveable ladders and staircases, rising floors and motorized accessories that were quite original in those early days of the electrical age. These innovators truly did it all.

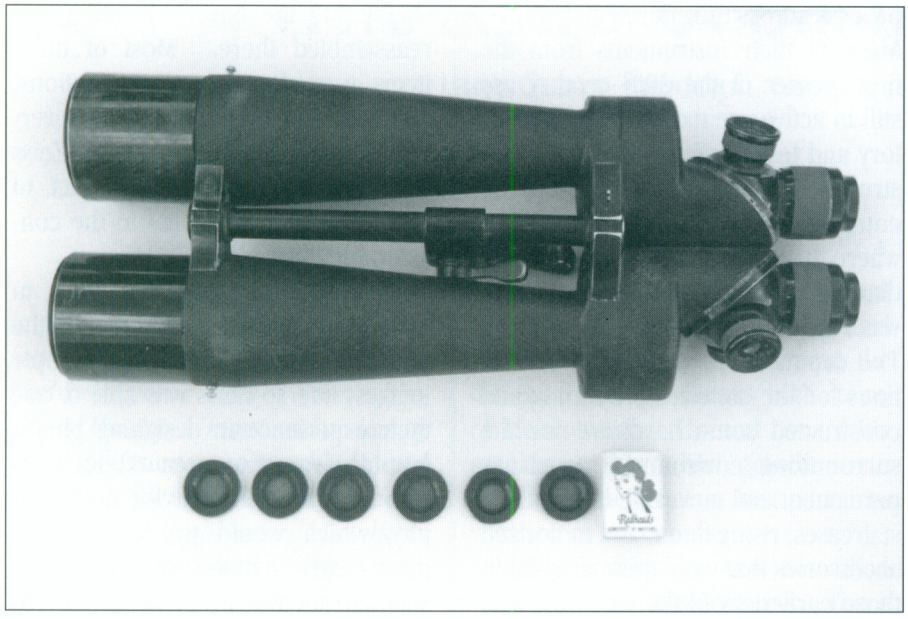
These large-scale products were really big ticket items and were usually made for various governmental agencies and for prosperous universities or foundations. They were constructed, assembled and tested in Jena and then they were disassembled, shipped to the buyer's location and reassembled there. Most of these items were for European locations, although a few did wind up in overseas locations. The need for Zeiss staff to travel with the product to install it was incremental to the considerable costs.

It was also discovered that in many ways, the human eye was not the perfect instrument to view telescopic images, and so Zeiss was able to use their experience in designing photographic lenses to create telescopes with built in structures for photography, which would produce images more clearly than the naked eye could see or document. Special Astro-Triplets and Astro-Tessars were designed for this purpose and placed in supplementary tubes parallel to the main instrument. The assistance of the Photo department was key in adding this additional dimension to the product line.

The experience of another sister



This very early telescope was the Dosenfernrohr, with three eyepieces which rotated to change the view. This was clearly an instrument for terrestrial viewing. The name interestingly translates into English as "Tin Can Telescope."



This marvelous instrument was known as the Starmorbi. It was a 60 mm portable telescope with 12x, 24x and 42x magnifying eyepieces. It was available as a monocular (Starmor) and had sister instruments named Asem and Asembi at 80 mm and Asimara and Asenglar at 110 mm. A tripod was supplied with the instruments.

department (*Tele*) where prism binoculars were made also gave additional insight to the department in the construction of terrestrial telescopes as well. The view of objects on land or sea would be much more effective if the images were in their erect and unreversed position. Prisms were also used to control the focal point of the instruments' image.

The development of the modern planetarium was also a part of this department's work. Dr. Walter Bauersfeld, a member of the Zeiss board of management, worked with Villager and other members of the department to construct two devices for the German National Museum in Munich.

The first was a Copernican Planetarium, which by and large was just a model of the planetary system using detailed balls to represent the sun and planets attached to a slowly rotating gear system in the ceiling. This was an achievable assignment and was addressed by Meyer with engineer Bruno Müller. This mechanism was accommodated in a cylindrical room of 12 meters diameter and a height of 3 meters at the Museum.

However, the second request was for a Ptolemaic Planetarium where the planets would be projected onto a ceiling was much more difficult. Villager felt it would require too many resources and too much time to accomplish at a reasonable cost and the project was put on hold due to World War I governmental assignments. Had it not been for the personal and aggressive interest of Bauersfeld, the project would have come to an end. Bauersfeld took upon himself the design of this instrument, and the department constructed such a device. The device was met with absolute wonder and amazement at its debut in a 1924 demonstration. The device projected the fixed star systems as well as the planets and so was even beyond the specification given to Zeiss by the representative of the Museum, Oskar von Miller. The instrument was handed over to the Museum in 1924 but the planetarium sparked interest from all over the world and only Zeiss had the know-how to manufacture it at that time. It became a successful big ticket item for the firm.

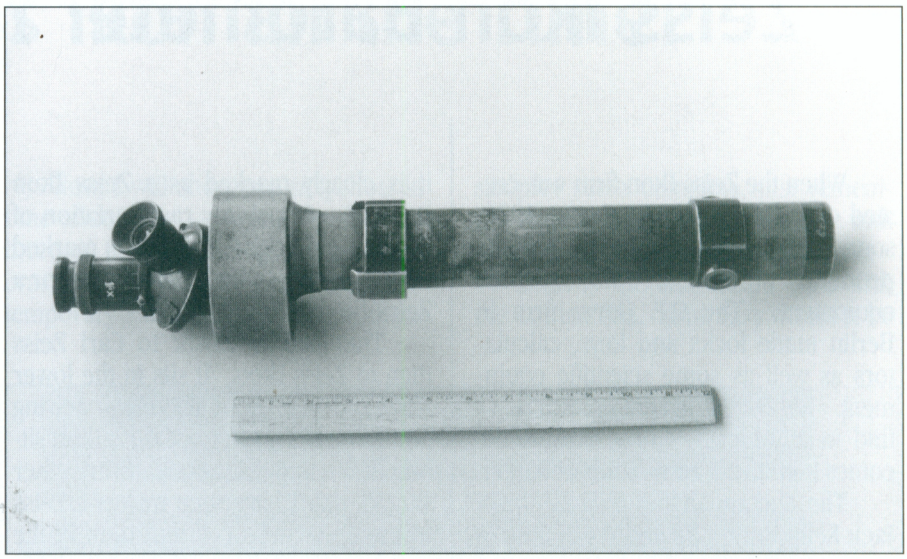
The department continued to provide commercial telescopic equipment, large-scale designs of big ticket equipment and now planetariums as well. This would last until the Second World War when all of this work would be suspended in favor of military obligations.

After the war and the split of the firm into two entities, the West Germans never really went after the lower-end commercial market because of the cost to restart the department in the West. Many of their pre-war designs would soon be available from other manufacturers at considerably lower prices, and the precision and quality of the Zeiss firm was not required by the mass market. They did continue to produce planetariums of continuing higher quality and "special project" large-scale telescopes and accessories for observatories and astronomical societies that were willing to pay the price for Zeiss quality and precision. The East Germans would challenge the West Germans with regard to the Planetarium market, and they would be in constant competition around the

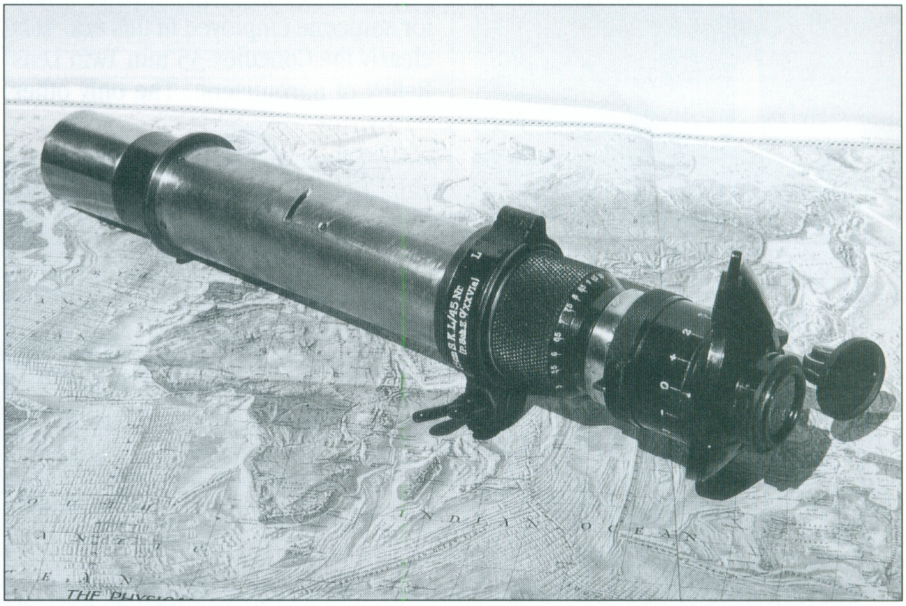
world with regard to price and quality. The East Germans would also continue to go after the amateur astronomical market but without much commercial success and astonishingly low production levels. Most of their products would end up in the schools and universities of the Soviet bloc where money was not a consideration.

Once Germany reunited in the 1990's, the Planetariums were united in one location in Jena while large-scale astronomical projects were largely left to a special projects group in Oberkochen. Amateur equipment was once again explored by the Carl Zeiss Jena organization. (Notice the absence of the comma after the Carl Zeiss. This is a totally new company of the Stiftung operating under the direction of the Oberkochen Carl Zeiss.) In 1994, Carl Zeiss Jena closed down the manufacture of amateur astronomical instruments. Historically, this was never a profitable undertaking of the company except with regard to those large-scale government or foundation projects. Today's larger telescope projects have been made less problematic since Schott has perfected a product called Zerodur. This is a ceramic product for large telescope mirrors that can be made with a high level of surface accuracy that would be much more difficult, and therefore more expensive, to match with glass.

The last telescope products between 1989 and 1994 are already collectors' items with prices that have maintained themselves in spite of what seemed very high just a few years ago. The big ticket items continue and major telescopes by the combined Zeiss companies are currently being installed or used in major observation sites in Hawaii, the Canary Islands and Chile.



A prototype or most probably a partial military version of a revolving eyepiece Zeiss telescope is pictured here. This instrument has only two eyepieces and its labeling indicates that it is pre-1903. It is marked as "Schartenfernrohr No. 126 Fussartillerie."



Another military item is this similar telescope which is estimated at being made between 1934 and 1945 for use in a naval application. It had both focusing and diopter controls.

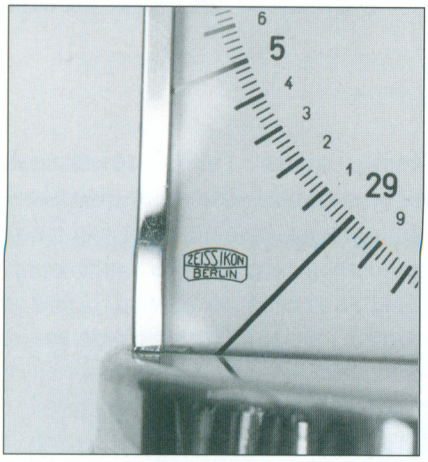
Zeiss Ikon Barometer from Goerz

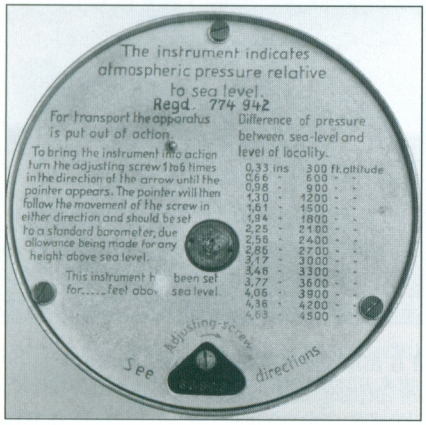
When the Zeiss Ikon firm was created out of other companies in 1926, some of those other companies made products other than photographic equipment. The C.P. Goerz firm in Berlin made locks and keys, calculators as well as some scientific equipment. Almost all of this is difficult to find in any form. When an example comes forward, it commands attention.

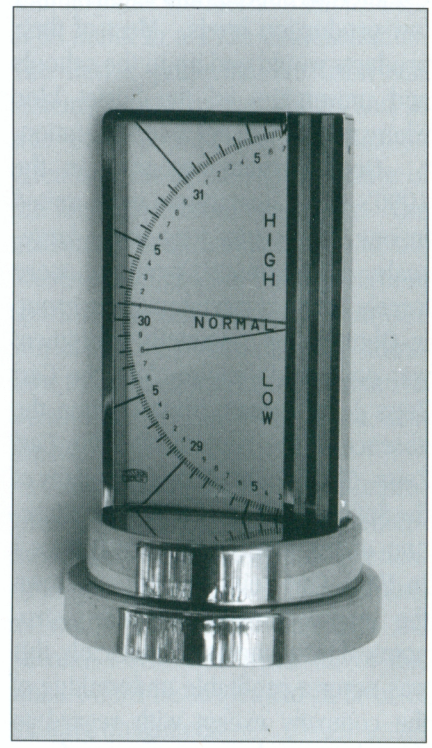
The accompanying pictures from Jack Kelly show a beautiful example of an interesting aneroid barometer. First of all, it is a wonderfully made and preserved instrument, with lettering in English and graduations in inches, in total working condition. It is small at 5 inches in height. Second, it is clearly marked as a Zeiss Ikon product using a very rare variation of the lens cell logo. Third, it is marked with a location which is very rare for a Zeiss Ikon product.

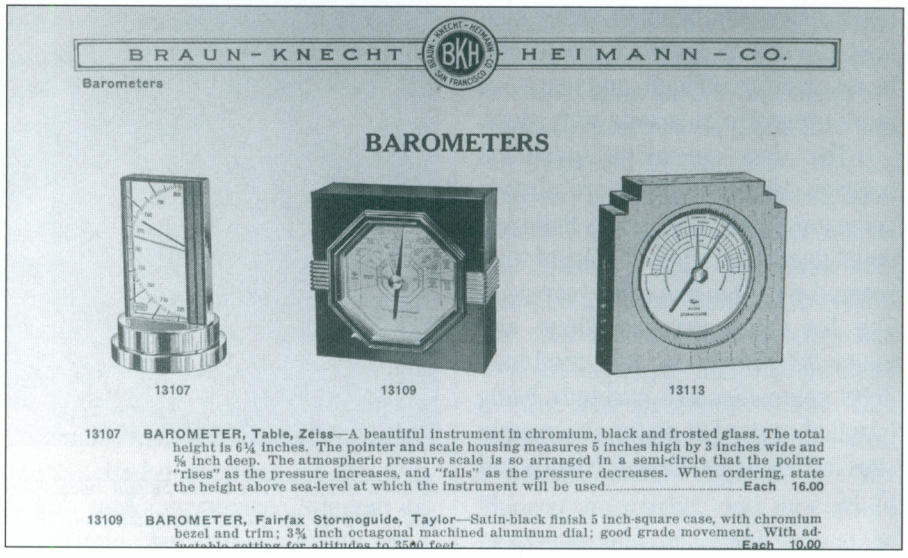
The logo is closer to Carl Zeiss than to Zeiss Ikon. It sits in the lower left hand corner of the glass viewing pane with the trademark Zeiss Ikon sitting in the upper lens cell. Every other sample that I have seen makes it Zeiss in the upper lens cell and Ikon in the bottom. Then, the location of Berlin is in the lower lens cell. I have only seen one other Zeiss Ikon product marked with a location and that was the darkroom light illustrated some years ago in this journal. However, even then the location was Dresden and it appeared below the lens cell.

This item was a pretty price for a depression era product. The upscale San Francisco-based catalog from Braun–Knecht–Heimann shows a $16 price tag. Nearly half a week's salary for someone employed in this era. It is clearly the Contaflex 35 mm Twin Lens Reflex of barometers. The only other place that I have seen this item is in the Hauptkatalog versions of the 1930's. If you find one, prize it, you have a nice rare item for your collection. —LG









All Zeiss Ikon all the Time!

When I think of Zeiss Ikon cameras, I think of completeness—the camera and all of its accessories. Sometimes the camera is easy; for instance, the Contaflex SLR was a best selling line for nearly 20 years. It was far and away a better success than the Contax in terms of sales. However, finding all of the little bits and pieces to make any of these camera systems seem complete is a collector's nightmare. For instance, when was the last time you saw the 1:1 Tessar, the reproduction lens for the Contaflex?

This fact struck home as I was reviewing some of the photographs of Zeiss cameras that I collected over the years. I came across the four camera-system pictures accompanying this article. It also clear how difficult it was to find information on what is out there when we started in the late 1970's. We, as Zeiss Historica, have worked hard to find this information out and put it into your hands.

For instance: The "Bestelle Number" list was put together to identify things that we come across, since almost all of them have this number placed on the body of the product. Maurice Zubatkin spent years putting the pre-war list together using catalogs from all of the membership at the time and translating everything he could into English from the various other languages that he found these catalogs in. Phil Laycock made it an international project as well in making the post-war list as complete as possible from his home in Britain. Both members still keep a running list of new discoveries for later editions. In addition, there are our articles surveying these collectible items such as the great two-part series that Charlie Barringer put together on Contax viewfinders.

Now, I will show you snapshots in time about the "complete" systems of three of the cameras of the post-war era. I will do this with pictures of contemporary sales devices. While these samples seem complete, just remember that they all changed over time with new models, accessories, lenses, etc.

First is the salesman's case with the Contax IIIa. How easy would it be

to put together today. I count seven lenses at 135 mm and under with the camera, case and rare post-war Contameter accessory in the leatherette box. Here there are five viewfinders and filters, which are best used for black and white photography. In addition, there are two Zeiss Ikon film cassettes and, if you look very closely, a Zeiss Ikon cable release and three lens hoods.

Second is a different vehicle, a display case organizer showing not one but two different Contaflex cameras and six different lenses (can you name them without reference?) including the elusive 1:1 in the lower left corner. You will also find a early Zeiss flash product, a right-angle finder, the monocular and various hoods and filters.

Third is a Contarex System attaché case with the "bullseye" camera and case displayed separately. There are the best lenses of the period, including the first version of the 250 mm Sonnar and the late version of the film cassette inside the two lens shades. You can also see that the only auxiliary viewfinder made for this came for the 21 mm Biogon.

Fourth, a later version of this same case hides the camera in the ever-ready case but with the interchangeable backs instead of the film cassettes. The new and more exotic version of the 250 mm Sonnar is nestled to the left of the camera case, and you can pick out the bellows unit and a special tripod adapter as well.

It is wonderful to see these all in one place. However, the bad news is that I only have bits and pieces and these pictures. Another piece of bad news is yet another item of Zeiss Ikon hardware that I have not got an answer for. It was forwarded to me for identification by Charles Gellis. I have looked in every Contax book that I have come across for nearly six months now. The only thing that has come close was an adapter for the Twin Lens Reflex Contaflex to a microscope. However, Charles knows his microscopes and does not believe it to be for a microscope and so we are stumped. It's your turn.

The Contax case picture was provided by Nick Grossman; the other systems cases were Zeiss Ikon marketing material and the stumper is from Charles Gellis. —LG

"Anonymous" Zeiss Ikon Cameras

Did you notice our cover camera for this issue? It looks rather normal for a Contarex first model, doesn't it? Well, look again. There are some legitimate differences from a regular Contarex which must be inspected by someone as interested as a Zeiss collector. The picture and the information comes from one of our more distant members, Lars Sundberg of Kiperhaantie, Finland.

On this camera, the Zeiss Ikon logo usually appears in two places. On the front bezel, as you look at the camera under the rewind knob on the right, the engraved lens cell trademark is typically under the rewind knob. It also should appear on the rear center on the leather directly under the eyepiece it appears with the words "Made in Germany." Well on this camera, it does not appear at all.

In addition, the lens (which is clearly a Zeiss Planar) also does not have the words Carl Zeiss on it anywhere. It does have the word "Opton" where Carl Zeiss would normally appear. Now remember it does not say Zeiss Opton, only Opton. Under normal circumstances, Zeiss stopped using the trademark Zeiss Opton when they started reusing the trademark of Carl Zeiss after getting the recognition of the West German courts in May, 1954. So, Opton was certainly not in normal use when this lens was made in the late 1950's and early 1960's.

Well, what happened to this particular camera? Is it just a production error? Well, I don't think so. I think that it had to be especially marked to be sold to its designated customer. Lars lives in a country just outside of the old Iron Curtain, and I think that his camera was originally sold to someone in Russia or one of the satellite countries. Remember that Zeiss trademarks were in dispute for many years after the war. In fact, these issues were not settled in any agreed upon fashion until Carl Zeiss in Oberkochen and VEB Carl Zeiss Jena came to a joint agreement in London in April 1971—which was beyond the days of this camera and, indeed, nearly beyond the use of the trademark Zeiss Ikon Germany for cameras.

An "unmarked" Zeiss Ikon Movikon 8 mm movie camera from the 1950's. This unique design for a movie camera shows no conventional markings of the name of the manufacturer. In fact, I am surprised that the Movikon name was able to be used. The Zeiss Ikon trademark has been removed or not added to the dark area just to the left of and between the taking and viewfinder lenses.

In any case, to keep things clear, Carl Zeiss could not use the trademark in the Eastern countries before or after the agreement. In practice, it had used the trademark Opton instead for most products across its product line destined for those area of the world that did not recognize their rights to use Carl Zeiss or Zeiss Ikon. Most of these products were sold indirectly from Vienna, Austria instead of Germany. So there is the explanation. It is rather simple but I do bet that there are very few Contarexes so unmarked and marked around the world today.

In addition to this camera, Lars has also found two other unmarked cameras of this sort. It is the 1950's model of the Zeiss Ikon Movikon (shown above) and the slightly later Tenax Automatic. Both are also untrademarked and in their situation, the lens was changed as well. Both of these cameras usually had a Tessar lens but instead, the lenses on these cameras was marked Luminar. This was a Hensoldt manufactured rarely used lens which was similar to the often used cheaper Novar. However, it is not clear if the Tessar was swapped or the trademark merely changed. Typically, this "Luminar" did not have a manufacturer's trademark.

Thanks to Lars for showing us his interesting cameras and keeping us so well informed. *Larry Gubas*

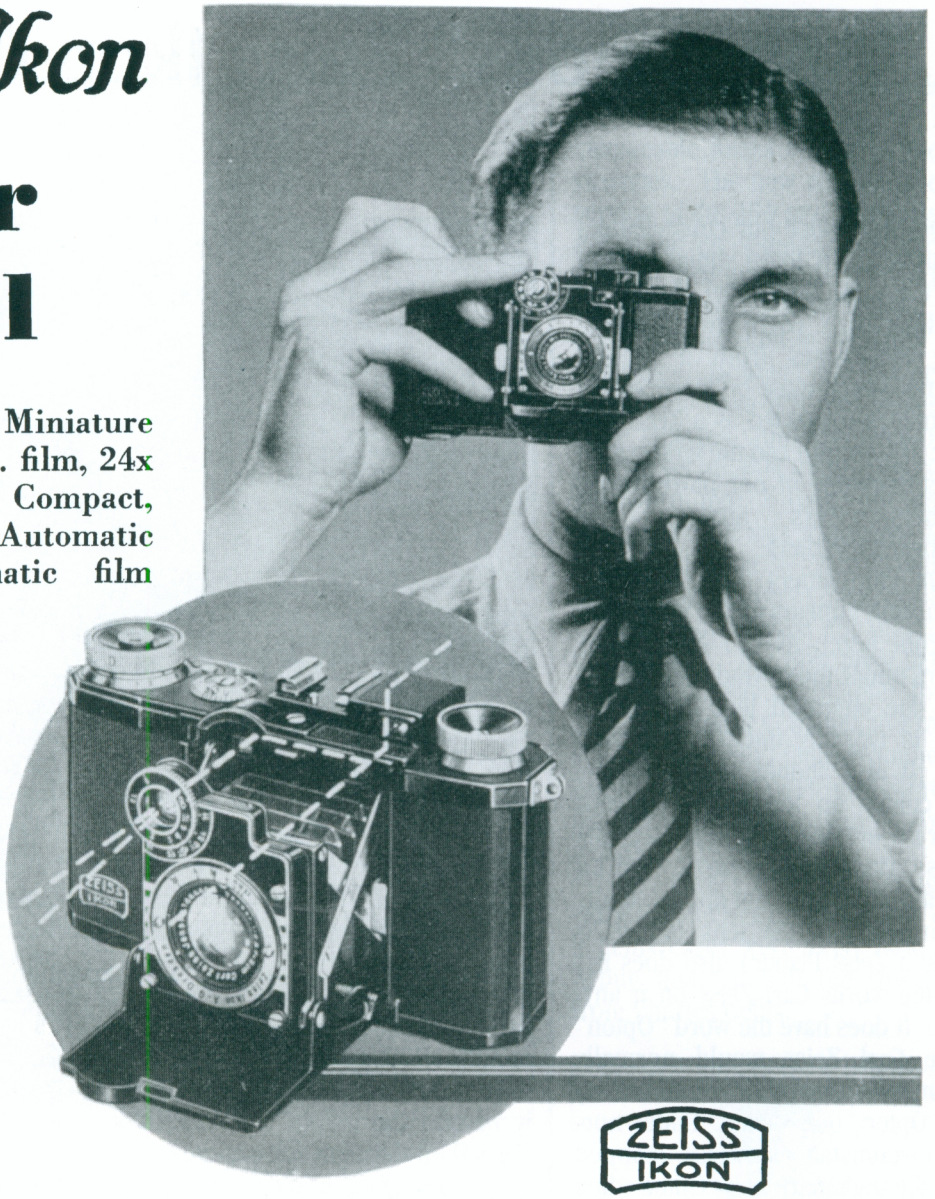
Back Cover: This full-page advertisement for the Zeiss Ikon Super Nettel appeared in Photo Art Monthly, October 1934. The original was supplied by Charles Gellis of Roslyn Heights, NY.

ZeissIkon

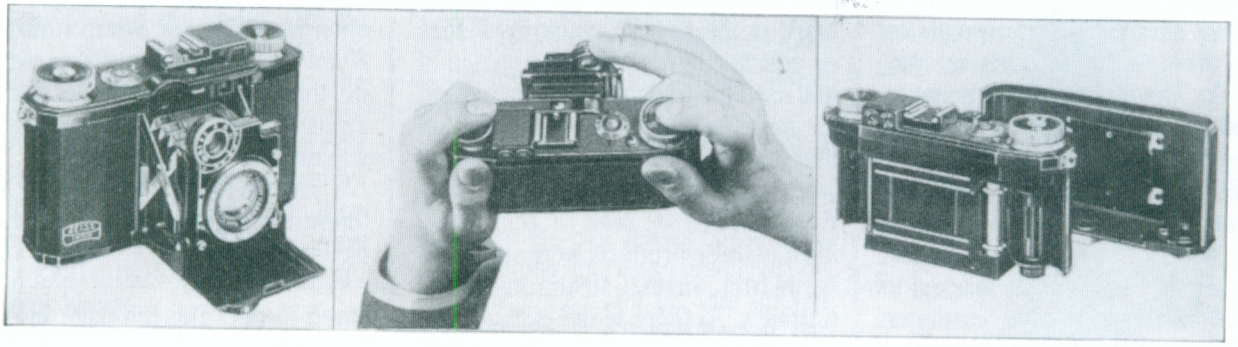
Super Nettel

A new automatic Miniature Camera for 35 mm. film, 24x 36 mm. picture. Compact, rigid, pleasing. Automatic focusing. Automatic film transport. Metal focal plane shutter. Nine speeds: 1/5 to 1/1000 sec. and B.

Removable back. Eveready case and numerous other accessories. With Tessar *f*/3.5 — 50 mm. 88, Tessar *f*/2.8 — 50 mm. $96.



ZEISS IKON



Ask your dealer for a demonstration. Literature upon request.

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