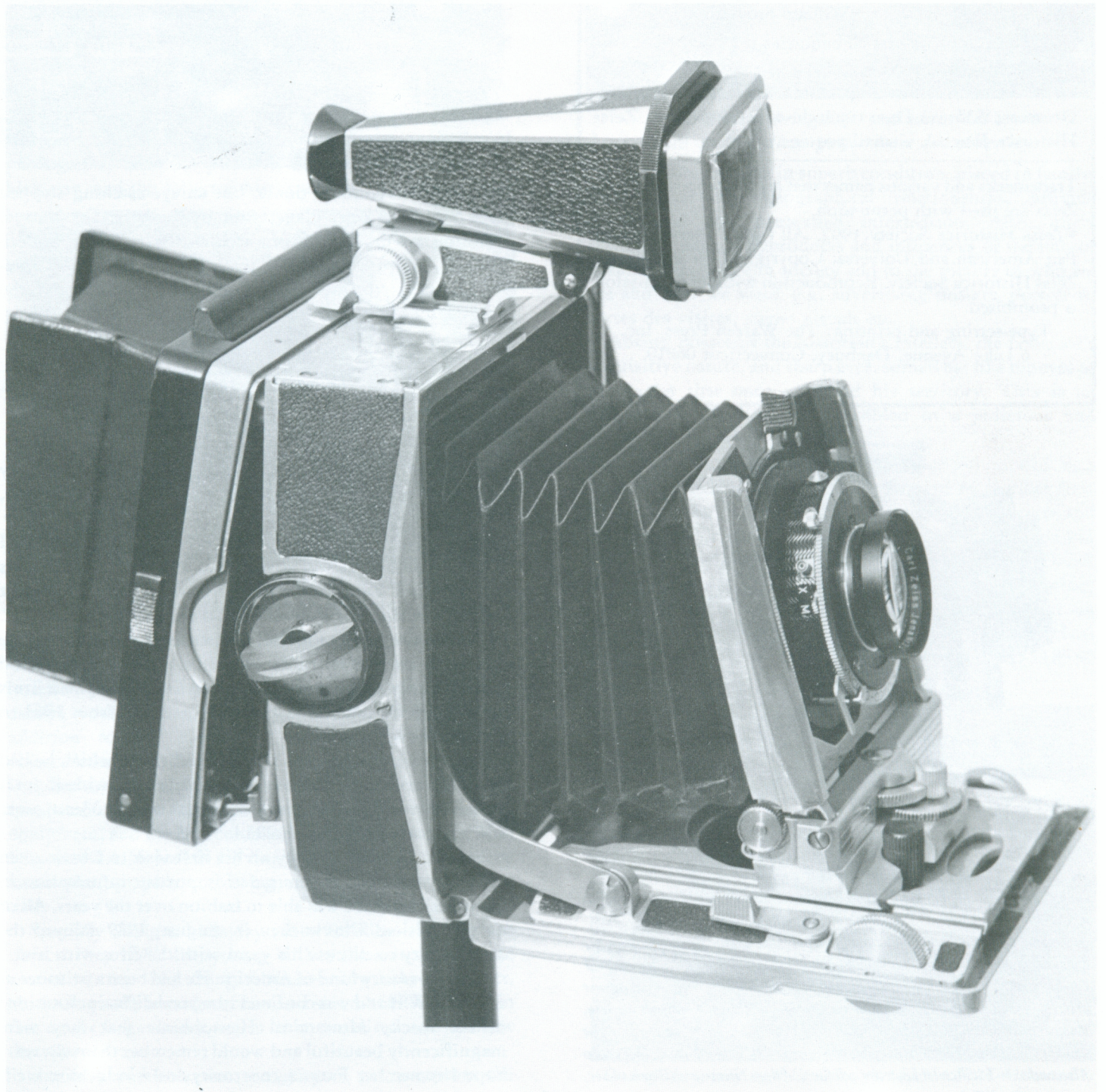


ZEISS HISTORICA

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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.

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STUTTGART PLANETARIUM



Not the conventional dome, but an eye-catching stepped roof covers the Zeiss Planetarium in Stuttgart. The unusual building was designed by the architect Beck-Erlang, built in 1975-77, and opened to the public in April 1977. A five-minute walk from the main railroad station in Stuttgart, the planetarium is well worth a visit.

FRANZ SCHNEIDER

1917-1992

Earlier this year, Zeiss Historica lost one of its first honorary members: a senior member of the family of Zeiss employees, Franz Schneider.

Franz was not a physicist nor an optical/mechanical scientist. Rather, he was an expert in trademarks and patents for the Carl Zeiss Stiftung. This was a very important function within the Foundation in the years after the war.

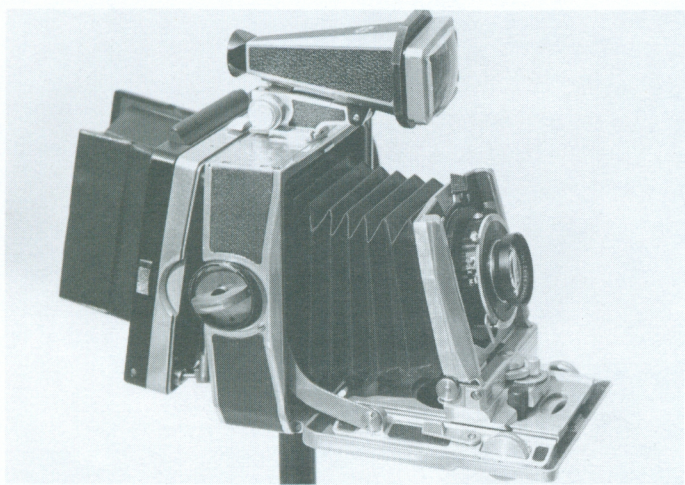
One of the major topics Franz and I discussed was the American judicial proceedings on the rights to patents and trademarks between the Western and Eastern German firms who claimed them. This proceeding lasted from 1963 to 1971 in New York.

Franz was very much a part of the firm in which he had spent his working life. He spoke with obvious pride about it in the letters that we exchanged as I was trying to learn more and more about Zeiss in 1983.

Franz met Mead Kibbey on his first visit to Oberkochen and afterward was the source of important information in many articles that I was able to fashion over the years. All of us who visited Oberkochen in August, 1989 enjoyed the opportunity to discuss his years with the firm with him.

Franz was very fond of America. He had been a prisoner of war in WW II and was confined in several different locations in the Rocky Mountains. He told me that they were magnificently beautiful and would remember them always. I hope I remember Franz's generosity and kindness as well.

Larry Gubas



ON THE COVERS

FRONT COVER: A rare experimental camera from postwar Jena: the Unica. At least one prototype still exists.

BACK COVER: After more than 45 years, Zeiss Jena is reunited with Zeiss Oberkochen.

ILLUSTRATION SOURCES

Front cover and Wica/Unica article, Joachim Arnz. • Magnar article, Terence Sheehy; Claus Prochnow of Rollei. • Werra article, Yasuo Nannichi. • Annual meeting photos: C. Barringer, Jr., the editors. • Abring Foto-Museum, the editors. • Super Nettel, Segundo Alvarado. • Lichtstrahlen: the editors, Allen Numano. Back cover, courtesy Carl Zeiss.

IN THE HOUSE THAT ABRING BUILT

Marion Husid, New York City

In a romantic medieval setting overlooking the Ruhr valley lie the remains of an AD 1142 castle-fortress that belonged to a band of robber knights known as the Lords of Horst. (Horst in German refers to aerie, a nest for birds of prey.) Today, amid these historical ruins, Hans-Dieter Abring has established modern buildings in harmony with the site. Haus Horst lies in Burg Horst on the outskirts of Essen, Germany.

One building holds a comprehensive treasure trove of photographic equipment and appurtenances he amassed over the past twenty-four years. About five years ago, Abring decided to share his ever-expanding collection with the public and established this small, colossal museum.

Indeed, here in the house that Abring built, the history of photography becomes palpable. For the collector and the historian, and the collector-historian, a visit to Haus Horst



A corner of Abring's Foto-Museum. In case at left is one of only four daguerreotype cameras of its kind.

is a treat, worth a detour, and belongs on the "must see" list.

The early history of the collection begins about one hundred years before the evolution of the photographic camera with the camera obscura and magic lanterns. In addition to the Kodaks, Contaxes, Robots, Leicas, Hasselblads, etc. in all sizes and styles, the collection includes miniatures, hidden and special tiny cameras, a large number of luxury and tropical models, stereo cameras and equipment, and the first color and panoramic cameras. "Von Daguerre bis Heute" is a living document that reflects the latest photographic technology, and continues to grow daily.

Specially designed display cases in all sizes serve the objects they hold. Everything within them is well-lit and awaits notice. No thing obscures any other. In fact, chronologically arranged cases and several tables, placed in five or six large spaces, act as lures that direct and enchant the viewer.

Should a particular era, category or genre capture the



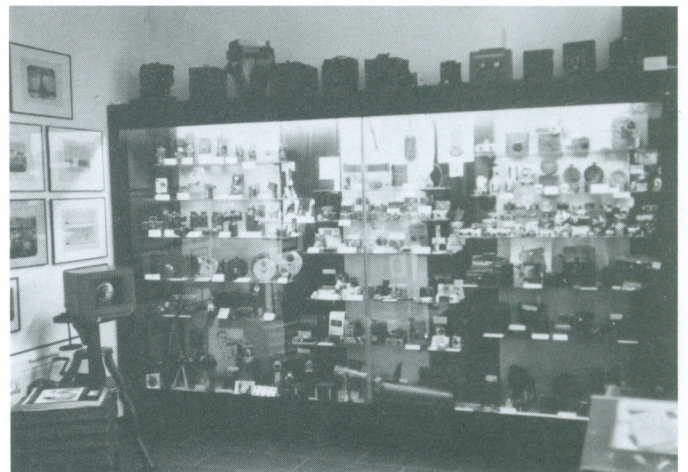
Hans-Dieter Abring (left) and editor Bill Stone with a Zeiss Ikon poster from the collection.

imagination, cameras in superb condition, placed in family, clan, tribal and geographical relationships, provide transitional and contextual information. Also, many contemporaneous byproducts and influences of the photographic experience in society add to the picture of who we are and who we were, e.g. advertising posters, postcards, cartes des visites, stereo visuals etc.

Abring possesses the historian's intellect, the collector's acquisitive nature, and sharp eyes, somewhat like the eyes of the eagles that once occupied his territory. This is an extraordinary collection, assembled in a judicious and enlightened manner.

Everyone familiar with Abring's three volumes of *Von Daguerre bis Heute* should look forward to number four which will be published soon. Nonetheless, to view and experience this museum in person is to feel like a little kid walking into a fantastic toy store. And the host, Hans-Dieter Abring, is a most cordial, generous, and charming guide.

The museum is open only by appointment. For an appointment, contact Foto-Museum, Burg Host, Haus Horst 1, 4300 Essen 14, Germany. Telephone: 0201/53 85 90 or 02325/7 50 47.



One of the many well-lit showcases in the Foto-Museum.



Honorary member Wolf Webran addresses the group in Oberkochen.



Organizer and informal tour guide Hans-Juergen Kuc.



Siegfried Kessler (left), formerly of Zeiss, is awarded a certificate by President Barringer as thanks for his presentation.



In Dinkelsbuehl. Foreground, members Allen Numano (left) and Kurt Juettner, followed by President Barringer. In the background at left, editor Marion Husid with Hans-Juergen Kuc.



West meets East: members Jim Cornwall (left) of Cologne, and Joachim Arnz of Jena.



Subject of discussion: an unusual Super Ikonta A. Left to right, Doctors Kaemmerer and Rault, President Barringer.



1992 ANNUAL MEETING

Once again, Zeiss outdid itself in welcoming Society members — just as they had done in 1989. Some 25 members, many with family, attended this annual meeting, which began in Oberkochen and closed in Jena. Underscoring the Society's international makeup, the members came from the U.S., Canada, Germany, France, Switzerland, the Netherlands, and Japan.

On Friday evening, Sept. 11, the group enjoyed a Zeiss-hosted banquet at Oberkochen's Hotel am Rathaus. The following day they visited two of Germany's most picturesque and historic towns: Dinkelsbuehl and Rothenburg ob der Tauber. In the evening, members were invited to dinner at the home of Zeiss's Dr. Joachim and Mrs. Kaemmerer.

The core of the meeting occurred on Sunday, with three outstanding presentations by speakers whose association with Zeiss has been long and intimate. Wolf Wehran spoke on postwar camera production at Zeiss, and its gradual eclipse by the Japanese. Siegfried Kessler focussed his talk on Zeiss marketing efforts in the US. And Dr. Kaemmerer presented a recently unearthed 1937 film on the design and production of the Contax. Hans-Juergen Kuc distributed the generous gifts he had obtained from Kyocera, including a handsome hardcover book on the Contax RTS. In midafternoon, a number of members attended an unforgettable concert of English choral music in the over 200 year old baroque church at nearby Neresheim.

Monday began at the Zeiss plant with a morning presentation on the current organization of Zeiss by Dr. Wolfgang Pfeiffer, followed by a tour of the Oberkochen facilities. After lunch, a large group of members left by car for Jena — prewar heart of Zeiss and now reunited in a single Zeiss operation.



Reception at Carl Zeiss headquarters in Jena. Left to right: Dr. Joachim Kaemmerer, Siegfried Kessler, Prof. Dr.-Ing. Klaus Szangolies, Siegfried Schaub.

Headquarters for the Jena visit was Saalfeld, where Zeiss official Michael Hiller hosted a dinner for the visitors on Monday night. Tuesday was devoted to a tour of Jena facilities, the Carl Zeiss Museum, a reconstruction of the original Zeiss workshop, and the Abbe memorial. On Wednesday, the group enjoyed a show at the Zeiss Planetarium before their departure.

Our Society owes much to those who worked to make the meeting a success: to Hans-Juergen and Jutta Kuc, to Kurt Juettner, to president Charles Barringer Jr. And above all to those at Zeiss who were so generous with their time, knowledge, and hospitality.

WICA AND UNICA: EXPERIMENTAL CAMERAS FROM JENA

Joachim Arnz, Jena, Germany

To follow the development of Carl Zeiss Jena, to see its numerous and diversified optical and precision instruments, is to experience a rich and multi-faceted history. Ernst Abbe's motto became a living spirit in Jena, penetrating the lives of all who worked at Carl Zeiss and those who lived in the town: "When we create a new product, we must surpass our competitors. No one should be able to match it with anything equal or better."

Here, products were constantly revised, improved upon, and new ones added. Maintaining Abbe's high standards led to outstanding results so that ultimately these instruments embodied his ideals for technical and scientific achievement. For decades, Carl Zeiss Jena followed a successful business policy in this way. They were peerless.

By 1890, however, the market demand for microscopes dropped considerably. That's when Zeiss introduced diversification which, until just prior to WWII, brought ever-increasing and assorted products to the marketplace.

When the first newly calculated and higher-performing anastigmatic lenses were introduced in 1890, the only available camera bodies (made of wood) were unable to accommodate them with sufficient rigidity. For this reason, the Jena camera manufacturer Palmos AG was taken over by Zeiss in 1902. Employees of Carl Zeiss Jena thus became shareholders in what might be considered the first subsidiary (Zeisstochter - Zeiss daughter) of the (Mutter) company.

In Jena, the parent company provided material and financial assistance to Palmos, the few family member. Camera development took place in the new company, not in the main factory. In 1909, Ica-Dresden absorbed Palmos AG, and in 1926, all were merged into Zeiss Ikon.

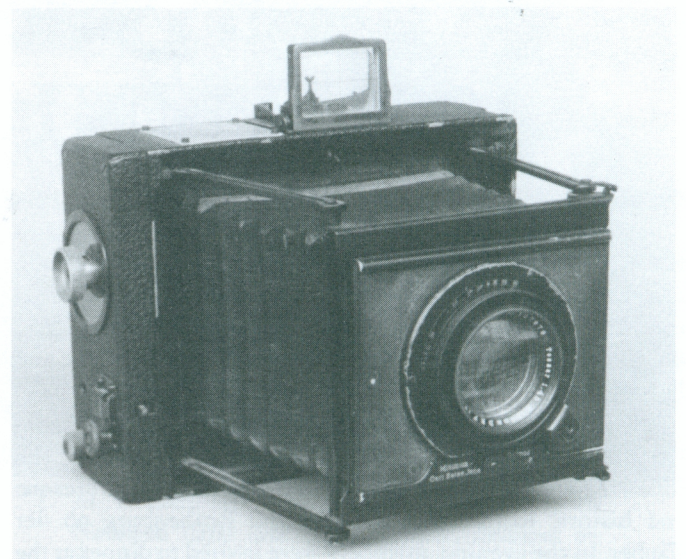
Despite Zeiss moves to diversify, there were many products which they could have manufactured but did not. Prior to World War II, they avoided producing many types of amateur and professional cameras, and they decided against producing electron microscopes.

Technical problems surely were not a factor because the Jena factory had already proved its capability. They had produced aerial cameras, as well as the apparatus to evaluate and to interpret their photographs. Built later was the memorable multispectral camera.

With extensive development, research and manufacturing facilities, plus their well-equipped machine shops, expanding camera output to include more variety (not only those used for special purposes) would have been easy. Perhaps there were economic and idealistic reasons that controlled these decisions.

Changes occurred after WW II. About 1945, the Soviet Military Administration gave the order to establish two production lines for the Contax II. That's when a new direction, a new thinking, a new era began.

Fabrication documentation was no longer available. It had to be created from product samples on hand. In a short time this was completed, followed by the creation of tooling and jigs for production. These, too, were devised and duplicated. Considering the complexities of the Contax, and especially the difficulties of the postwar period, Carl



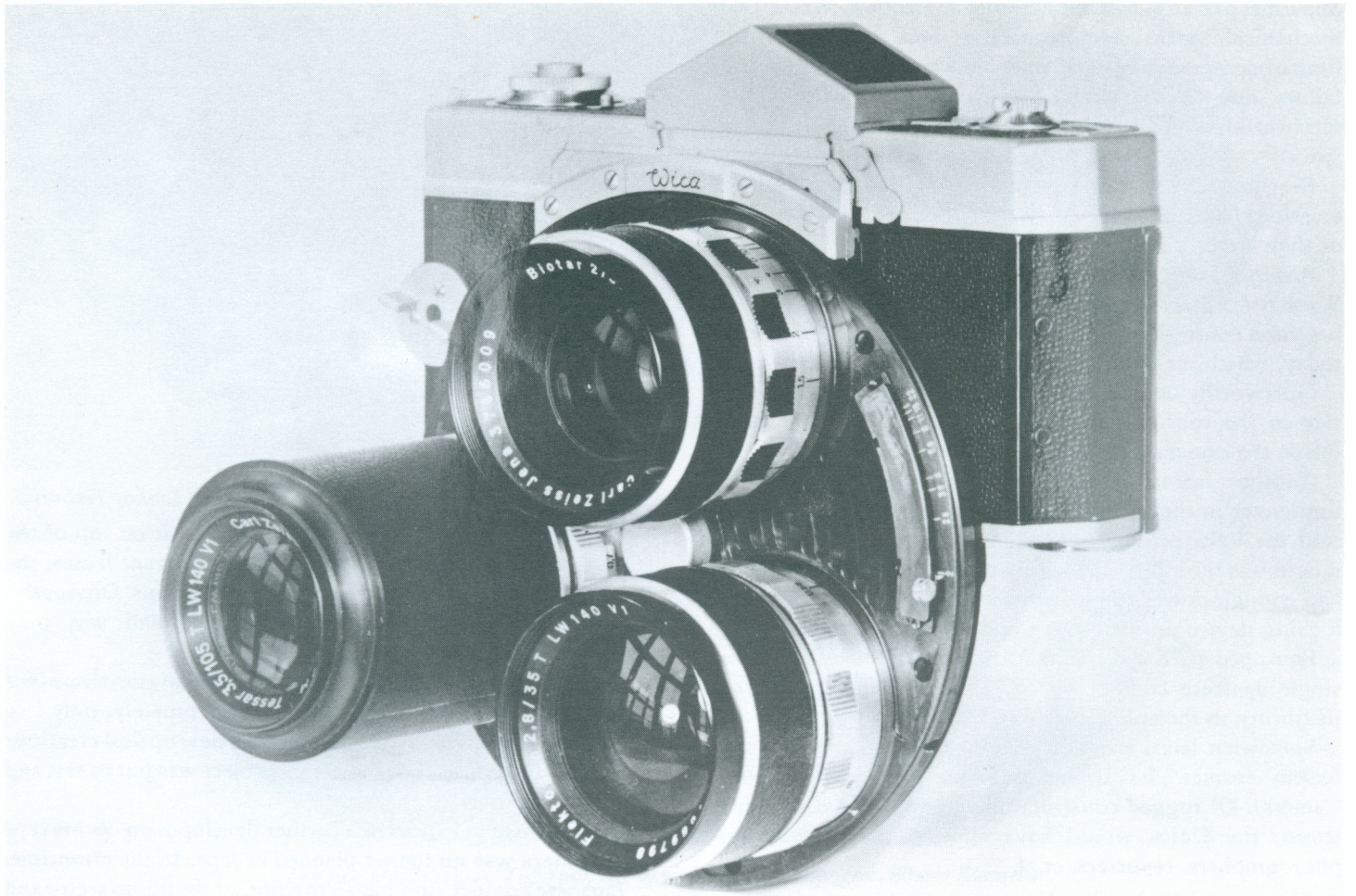
An early twentieth century camera from Jena. This 9x12cm Minimum Palmos (#9946) carries a Carl Zeiss nameplate, but Ica logo is embossed on the leather covering the ground glass. Camera dates from around 1910. Minimum Palmos cameras remained in the Ica catalog until at least 1922.

Zeiss Jena achieved remarkable results. But when the Russians dismantled the factory for reparations in fall 1946, difficulties in Jena multiplied.

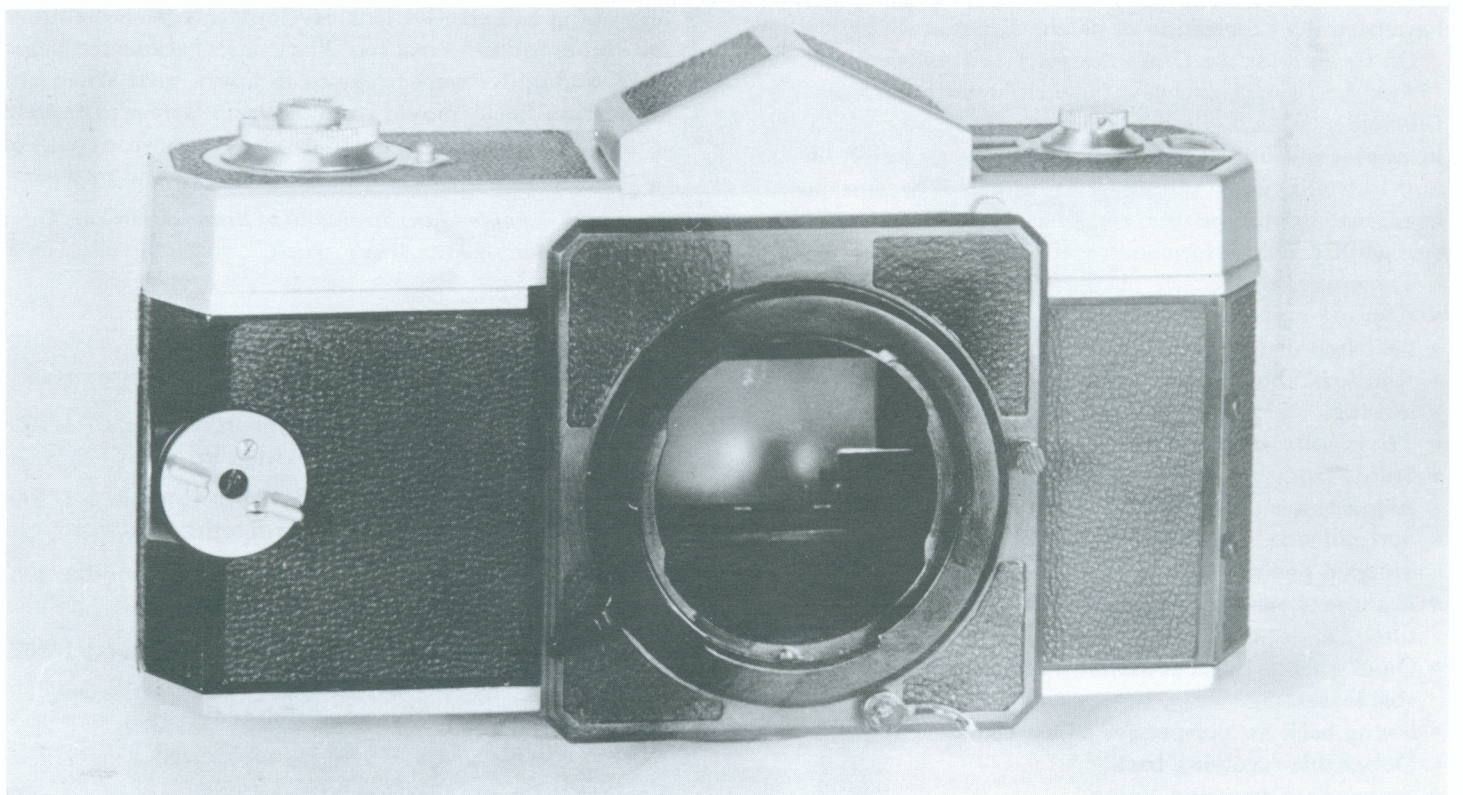
Surviving these conditions, Carl Zeiss Jena started to develop new models. The demand for cameras had considerably increased, and the badly damaged Dresden factories lagged behind.

Out of these ashes appeared the well-known Werra camera, making its auspicious beginning in the early fifties. Originating as a simple camera, improvements continuously introduced new features. Later models, for example, came fitted with a built-in light meter and interchangeable lenses.

By the early sixties, when camera electronics were still developing, a final model of the Werramat called the



Wica's turret mount accommodated three lenses. Single control set the apertures of all three lenses simultaneously.



Wica prototype. Knob on the front is for spring-wound film transport. Selenium cell swings into position in front of film plane to read exposures through the lens; swings back out of the way before exposure is made.

Supermat had an automatic aperture control which relied on mechanical means. Unfortunately, these cameras found limited acceptance because they were prone to mechanical failure due to the complicated measuring devices and mechanical transmitting parts that were packed into a small space.

On the other hand, two not so well-known camera creations from the Jena factory, described below, were ahead of their time in their technical conception.

Around 1953, a new small format SLR camera named Wica for Wissenschaftliche Kamera (Scientific Camera) became a reality. Unfortunately, only photographs of it exist today, which, nevertheless, provide interesting details.

Noteworthy on the exterior of the camera was the small size of the roof-covering that belied the extensive space inside the camera's body where the pentaprism rested.

Another feature unique for its time was the TTL-lightmeter in the form of a selenium cell that could swing into the light path. Moreover, to the left of the bayonet mount was the knob for a spring motor for film transport. It had enough power for ten exposures. Also provided was a locking device on the camera body for the lenses.

Equipped with a turret that included three lenses and a single aperture control for all three, this camera offered flexibility to the specialist.

Somewhat later, around 1959, a camera appeared in the 6x9cm format. Its designation was Unica (Universal Camera). Of rugged construction and supplied with many lenses, the Unica would have appealed to professional photographers, reporters, et al.

The available handmade prototype cannot deny its similarity to the contemporary Linhof-Technika. Indeed, the reason for not putting the Unica into production might have been the expectation of patent disputes.

On its exterior the Unica measures 14x14x8 centimeters (5.5 x 5.5 x 3.15 inches). Its weight without lens and filmholder is 2.2kg (almost 5 pounds). Constructed of pressure-cast aluminum, the body was neat and solidly built. Some details were purposely overlooked because in a handmade prototype the emphasis was on trouble-free workability and performance, not exact perfection.

These were the criteria planned for the Unica:

- A spring-loaded pull-out knob with an automatic stop on the baseboard.
- Knurled knobs left and right for focusing, with levers for locking.
- Triple bellows extension.
- Sturdy front lens standard for high-speed and long focal length lenses.
- Spring-loaded struts to hold the baseboard in normal and dropped positions for wide-angle lenses.
- Front lens standard that rises, falls, moves laterally and tilts.
- Quick-change bayonet mount with lock for interchangeable lenses.
- Swing back for perspective adjustments.
- Detachable revolving back.
- Spring back focusing screen.
- Folding viewing hood.

Part of the original concept but unrealized was a built-in



resemblance to small Linhof Technika.

rangefinder/viewer that was supposed to sit on top of the camera. Adjustable for use with three different lenses, the meter was to be coupled by exchangeable cams. Obviously, the Linhof viewer was attached later and was only provisional.

For camera enthusiasts, the lenses especially developed for the Unica offered a special treat. Unfortunately, only five focal length lenses existed. Doubtless, new optical creations were in the works, but the Unica project was put to rest and was never revived.

It was safe to expect that further development of this type of camera was no longer planned at Jena. In the meantime, Japanese competition began to smother the photo sector and attention turned to other fields yielding more profit.

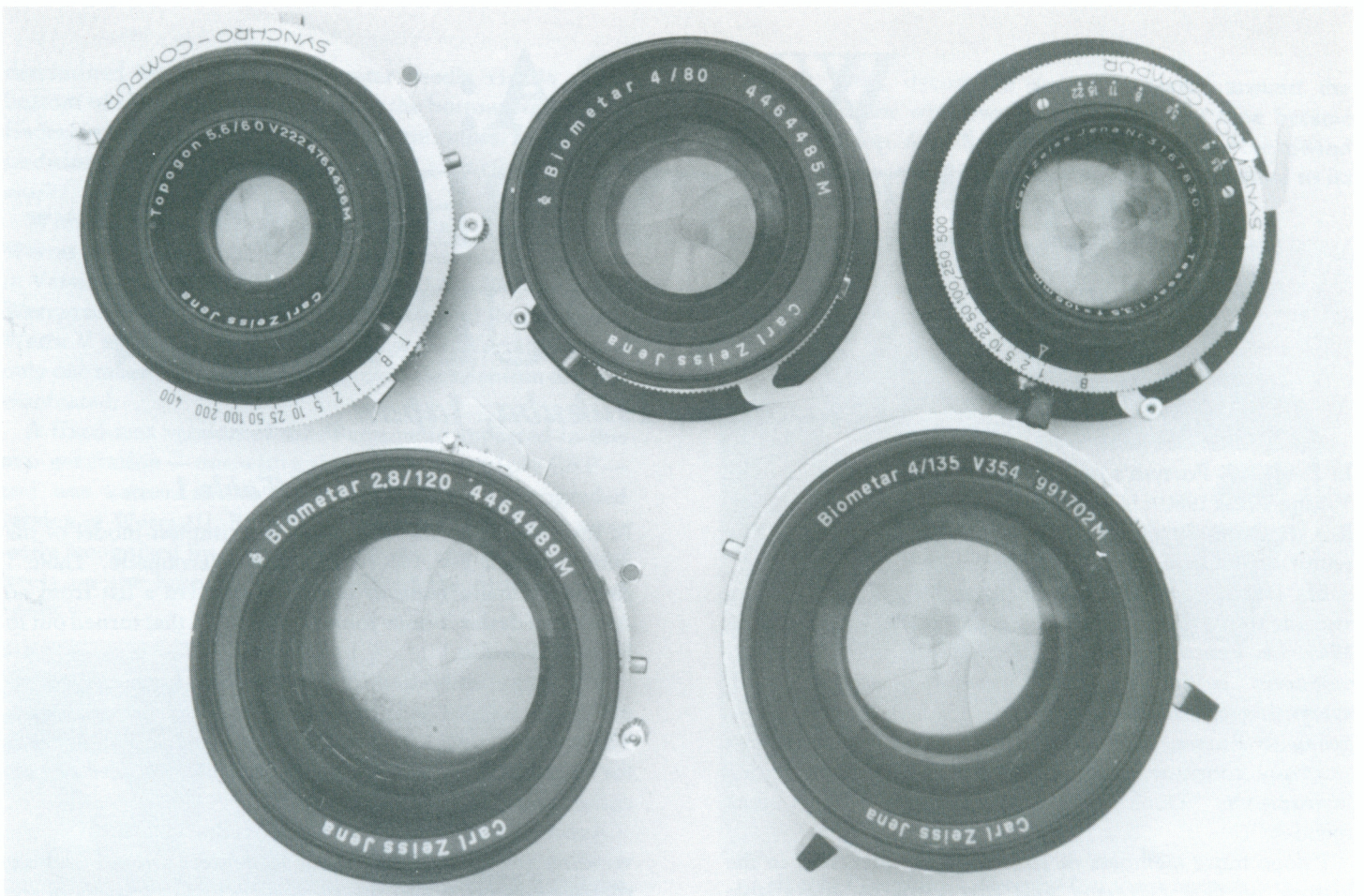
This "turn," however, caused the beginning of the end. Interesting and creative lens developments from the fifties and sixties found no markets. Electronics became the magic word, and optics were relegated to lower rank. When lens production finally moved from the main factory to Saalfeld at the end of the sixties, the glorious seventy year epoch of carefully refined Zeiss tradition came to an end in Jena.

Thanks to member Claus Stegmann of Brunswick, Georgia for his translation of Mr. Arnz's article.

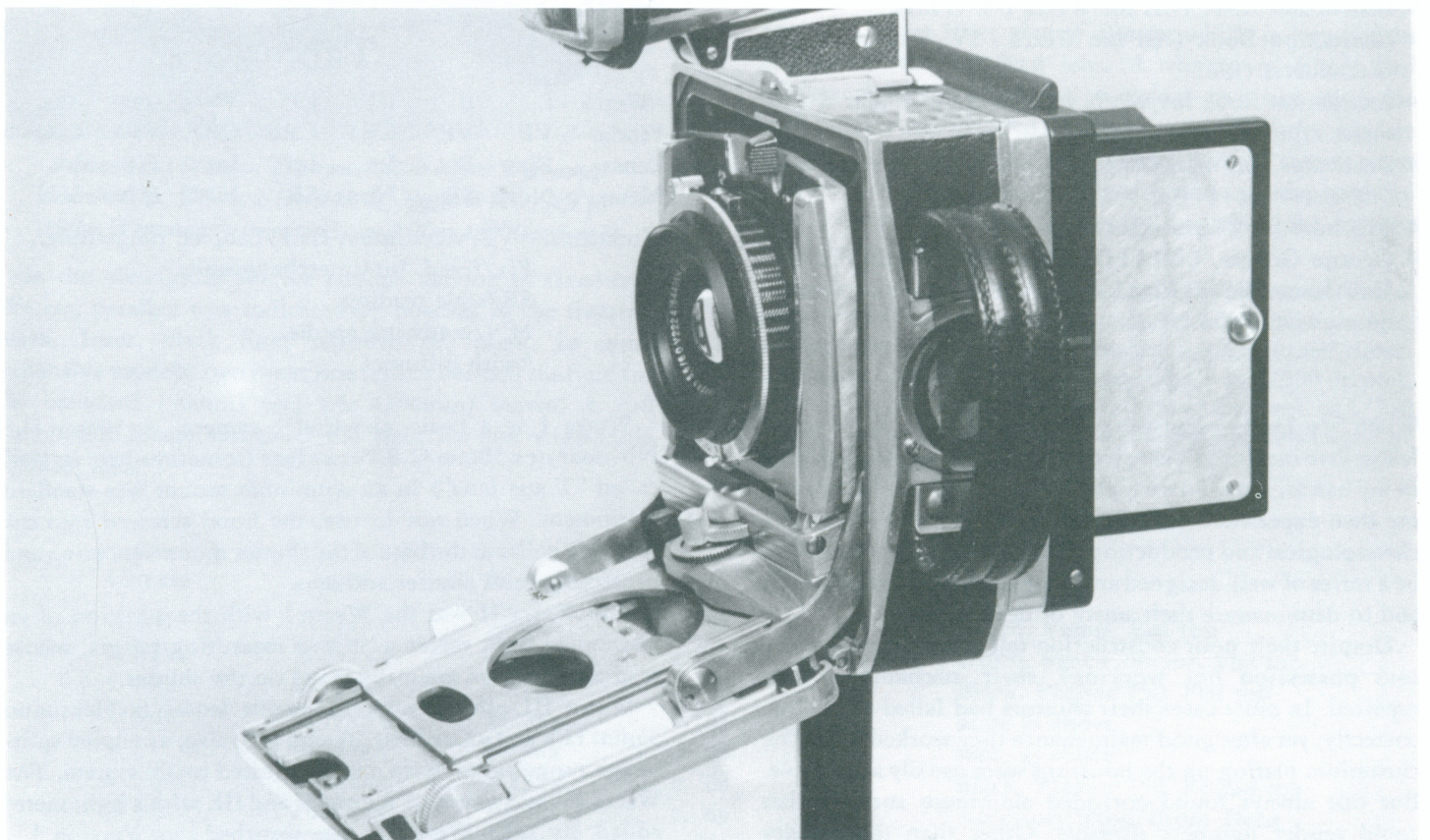
UNICA LENSES

LENS, NUMBER	ANGLE	SHUTTER
60mm Topogon f5.6 V222 4764496M	84°	Synchro-Compur 1-1/400 with selftimer.
80mm Biometar f4 4464485M	68°	Synchro-Compur 1-1/500 with selftimer.
105mm Tessar f3.5 3167830	54°	Synchro-Compur 1-1/500 with selftimer.
120mm Biometar f2.8 4464489M	48°	Synchro-Compur 1-1/400 with selftimer.
135mm Biometar f4 V354 991702M	44°	Prestor 1-1/250, synchronized.

Note: In the serial numbers, "V" indicates an experimental lens ("Versuchsobjektiv"); "M" means a prototype ("Musterobjektiv").



The five Unica lenses. Top row, left to right: 60mm Topogon, 80mm Biometar, 105mm Tessar. Bottom row, left to right: 120mm and 135mm Biometars.



Bed of the Unica dropped to accommodate wideangle lenses. Shown here is the 60mm Topogon f5.6.

WERRA: INGENUITY BEHIND THE IRON CURTAIN

Yasuo Nannichi, Tsukuba, Japan

In Frederick Forsyth's novel *The Devil's Alternative* (The Viking Press 1980), it should have happened in the early 80s. But the Iron Curtain actually disintegrated in 1990. The reunification of Germany soon followed.

My impression is that Zeiss Historica has a rather cool attitude to the deserted and unhappy experience of Zeiss in 1945, i.e. Pentacon VEB. Because despite many scientist-engineers being conveyed to West Germany, with everything else useful —materials, jigs, and machines — going to Russia, the part of Zeiss that remained in East Germany continued to produce interesting and first-rate instruments. "Doch bleibt in Jena." ("Indeed, Jena remains.")

I hope more members of ZHS become interested in the history of East Germany and that hitherto unavailable information will soon be brought forth. My analysis of Werra camera production rests on the following material:

- Instruction Book (IB) for Werra I-V (1961).
- Instruction Book (IB) for Werra I-IV, Werramat, and Werramatic (1962).
- Instruction Book for Werra I-III, Werramat, and Werramatic (1965).
- Brochures for interchangeable lenses for Werra Series (1961).
- Brochure for Werra accessories 1963.
- George Gilbert, *COLLECTING PHOTOGRAPHICA*, Hawthorne Books, Inc., 1976, p.252. A table of serial numbers of Zeiss lenses.

Hypothesis

When first I saw a picture of this unique camera, the Werra, I fell in love instantly. Years went by before I actually held one in my hands. Now I own eight. With the material above and my own experience with the cameras, I hope to establish a chronological and production order; to show the cameras to be a series of well-designed and uniquely styled instruments; and to demonstrate their unity of design.

Despite their poor construction (all of my cameras came into possession not working), their mechanisms were repaired. In most cases their shutters had failed to operate correctly, yet after good maintenance they worked well. The chromium plating on the housings were usually acceptable. But one always found corroded aluminum surfaces that could render numbers illegible. Other than their faulty construction and sometimes blurred numbers, the cameras are beauties.

Analysis of Table I

In my collection, the Werra I is the simplest model of the family Werra I-V, Werramat, and Werramatic. Table I shows the main features of all models. (In a list from an American dealer, I once found a Werra VI that turned out to be his invention.)

All Werras embodied identical die-cast housings, and to my eye reveal a remarkably creative and foresighted design. Their viewfinders have a wide range of optical adjustment for eyesight, which is especially useful for older camera enthusiasts.

Another interesting feature was that by turning the winding collar clockwise about 60 degrees around the lens, the film advanced and the shutter cocked. Flat tops of the first-version models gave them a square shape, whereas later versions had rounded tops. Black or olive drab plastic covered the body's midsection.

Table I

Werra	I	II	III	IV	V	-mat	-matic
Finder	VF	VF	CRF	CRF	CRF	VF	CRF
Lens	Fix	Fix	Int	Int	Int	Fix	Int
Meter	None	SR	None	SR	MN*	MN	MN

Notations: VF/viewfinder, CRF/coupled rangefinder.
Fix/fixed. Int/interchangeable.
SR/scale reading.
MN/matching needle.
*with diffuser.

Werra I is a basic viewfinder camera. A 50mm f3.5 Novonar or a 50mm f2.8 Tessar lens (sometime later in 1963 called "T aus Jena") in an aluminum mount was standard equipment. When not in use, the hood screwed into the winding collar at the base of the shutter mount, encasing and protecting both shutter and lens.

The Werra II was the Werra I with the addition of an uncoupled light meter with two measuring ranges, whose reading was then manually fixed on the shutter.

Werra III offered interchangeable lenses (a Flektogon 35mm f2.8 and a Cardinar 100mm f4.), also, a coupled split-image rangefinder, with a sophisticated prism system. The Werra IV was a sum of Werras II and III, with a light meter added. By 1963, Werra IV was absorbed into Version 3.

An advanced Werra IV became a Werra V. Exposure was

determined by matching the meter needle visible at the bottom of the finder. Also visible at the bottom right of the finder were the shutter speed/diaphragm values. In the Zeiss tradition, the Werra V demonstrated a marvelous prism at work.

With minor modifications, the second generation of Werras began when the Werra V was renamed Werramatic in Version 2, circa 1962 (IB#2 for Werra I-IV, Werramat and Werramatic). A distinct difference existed between the Werra V and the Werramatic. Because the Werramatic had only one measuring range, the flap over the selenium cell was eliminated.

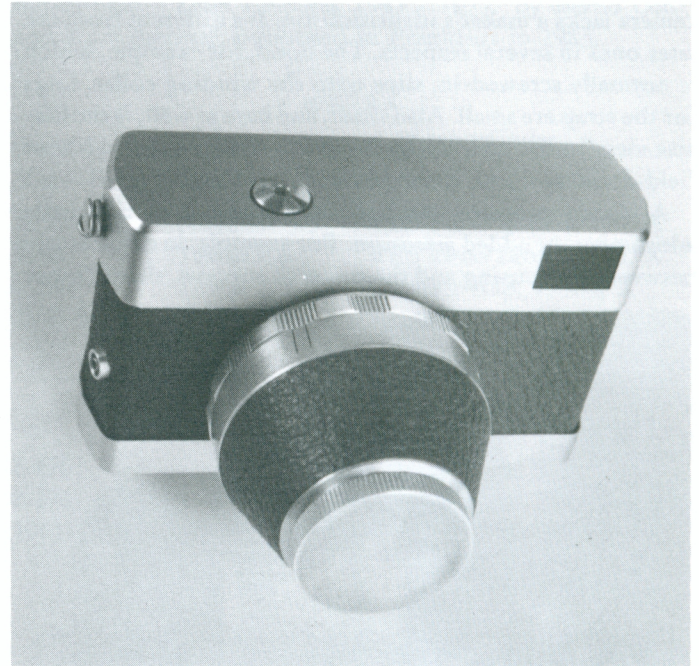
A fixed-lens version of the Werramatic appeared in this new generation — one with a viewfinder instead of a CRF — and was known as the Werramat, actually an upgraded version of Werra III. Both Werramatic and Werramat were easily recognized by their rounded tops, and by the rewind levers on the bottom, which replaced the earlier rewind knobs.



A quartet of Werras. Top row, left to right: Werramat (version 4), Werra I (version 2). Bottom row, left to right, Werramatic (version 3) and Werra IV (version 1).

In the viewfinder for the earliest version of fixed-lens Werras, parallax was indicated by notches in the framing mask. Later, black lines replaced the mask. In more expensive models, two inner line frames defined the field for the standard (50mm) and tele (100mm) lenses. A full viewfinder image indicated the field for the wide-angle (35mm) lens.

About 1965, decorative stripes appeared around the finder/selenium windows and an accessory shoe became fixed on the top. A push-button at the bottom for the rewind release disappeared. Now a bottom lock ring, turned to its mid-position "R" rewound the film.



Werra I (version 1). Reversed lens shade protects lens.

In the accessory brochures many items were listed. A spare lens hood was available. Moreover, a special three-part combination hood was presented for wide-angle and tele-lenses. It had a filter size of 49mm, which is larger than 30.5mm of the standard lens. A variety of filters and attachment lenses, as well as two close-up attachments for CRF types were included. Since Werras, except for the last version, lacked accessory shoes, special tripod screws were offered. And as another example of variety, an adapter to fix twin Werras side-by-side was available for stereo enthusiasts.

Earlier models came equipped with a Prestor or Vebur shutter. The Vebur appeared on the less expensive models. Its highest speed was 1/250 second, and it had no self-timer. Originally, the Prestor's highest speed was 1/500 second, but in later versions, designers increased the speed to 1/750 second. These versions had rotary blades similar to those of the Kodak Synchro-Rapid 800.

Table II

Camera	Lens #	Body #	Date	Vers.	Feature
A (-I)	4212xxx	461xx	c. '55	I	Green. Vebur. Flat top
B (-IV)	5673xxx	2716xx	c. '60	I*	Green. Sync-Compur. Flat top
C (-I)	6150xxx	4242xx	c. '62	II	Black. Prestor 750. Flat top
D (-I)	6649xxx	5325xx	c. '63	II	same as above
E (-I)	6726xxx	5419xx	c. '63	II	same as above
F (-mtc)	6826xxx	5713xx	c. '63	III	Black. Prestor 750. Round top
G (-mtc)	7001xxx	5974xx	c. '64	IV	Accessory Shoe. Front Deco
H (-mat)	7228xxx	6416xx	c. '64	IV	same as above

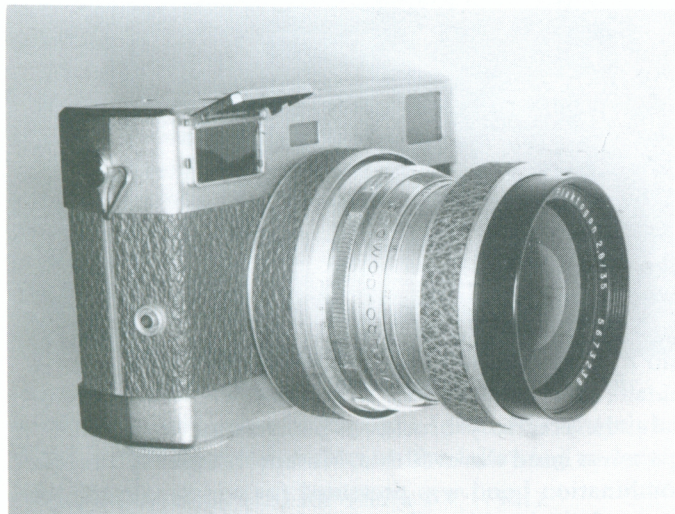
*Might be Ver. I with a Prestor RVS 500

Analysis of Table II

My collection comprises the list in this table. And from Gilbert's table of Carl Zeiss Jena lens numbers, I derived the approximate dates.

Camera A is a Werra I, covered in olive green. Equipped with a Novonar, 50mm f3.5 lens and a Vebur shutter, the camera lacks a maker's identification. It's different from the later ones in several respects. The hood, for example, which is normally screwed-in, slips onto the winding collar. Lugs for the strap are small. Also small, and bare as well, is the life-size viewfinder, now with a frameless window, and without field-defining black lines. Now the eyepiece is fixed.

A down-to-basics camera, my Werra I carries little adornment, or added attention. For example, in the juncture between the housing and the camera's support, there's space



Werra IV (version 1) with accessory 35mm Flektogon f2.8 lens. Camera covering material is green.

enough for a slip of paper, and in the film magazine section there are no notches. Yet, all numbers, lines and marks are meticulously incised and colored.

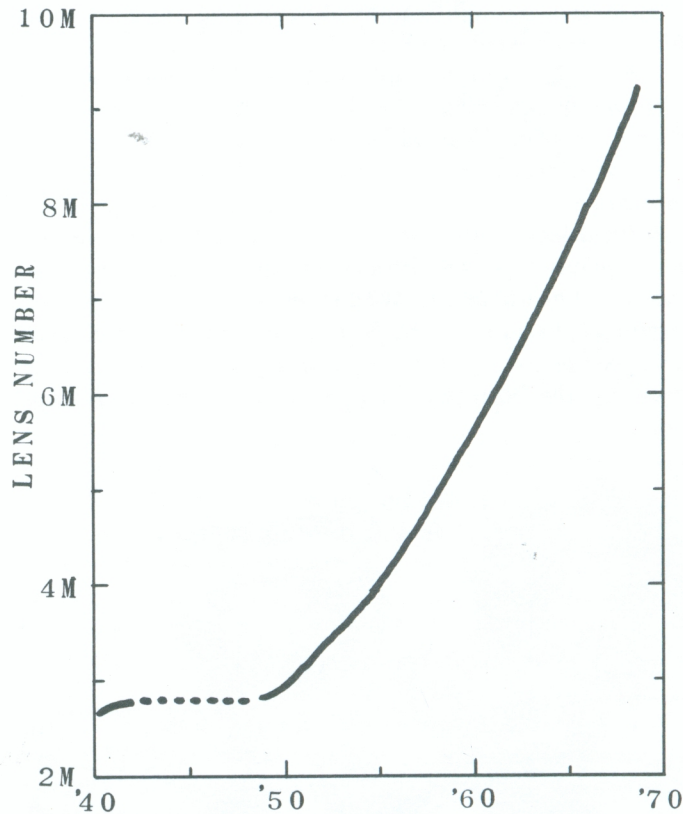
Camera B is a Werra IV with a Flektogon lens. The two fields for 50mm and 100mm lenses in the coupled rangefinder are defined with thin black lines, having parallax correction marks. And the entire view accommodates a 35mm lens. Although the hood screws into the winding collar, this one has a diameter about 2mm larger than the winding collar for the fixed lens (Werra I/II).

My shutter on this Werra IV is a rare Synchro-Compur. I find no references in any of the IBs to Compur shutters, yet, one picture does show a Compur, whose MXV switch is in reverse position from that of a Prestor shutter. According to McKeown, both Rapid Compur and Synchro-Compur were used before 1959 in place of the old Prestor RVS 500. In 1961, the Prestor RVS 750 appeared.

Film speed settings for both ASA and DIN are included, with the highest ASA speed being 800 and ASA 400 for the Prestor. (Sometimes these scales posit clues for dating cameras.) On this Werra IV is Carl Zeiss Jena's plastic ID glued to the back. Also, the lugs to hold the strap are larger than on the Werra I, and the meter scale for both incident and reflected light can be read on top.

Cameras C, D and E have black covering and are identical.

Here, too, no manufacturer's ID is found, but a Werra I mark is glued to the front. On the older C models, the mark reads only Werra. Those models look cheaper because the numbers and marks, except for the MXV marks, are no longer incised but are stamped directly onto the aluminum surface.



Jena lens serial numbers plotted against year of manufacture.

Inside the back of my camera is stamped the quality Q-1 mark of East Germany. Also, the body number is stamped rather than incised. Another difference is the fold-in lever added to the rewind knob, and one set of parallax marks in the viewfinder for the standard 50mm lens (in Werra I/II). In the late 50s, according to IB (1961), the parallax correction mark was simpler having a notched mask.

Camera F designated Werramatic has a rounded top. The shutter speeds and lens openings are incised and colored against a white field, whereas those for the film speeds are stamped.

Cameras G and H are Werramatic and Werramat, respectively, having stripe-patterned plastic decoration on the front, a locking disk that serves as a rewind release, and an accessory shoe fixed to the top. In my opinion, this functional shoe is esthetically unattractive.

As you can see in Table II, the lens numbers are arranged next to the version of the cameras they came with and conform to a chronological order. My method of determination was based on two reference points.

In an IB for Praktina IIa (1958), I was able to read in a picture the number 4456xxx of a Tessar shown. I own a Praktica L (about 1971) with a Taus Jena lens #9253xxx. By plotting my data with long error bars, I created a graph. (I assumed that no big fluctuations in annual production occurred.) A smooth direct line emerged in the graph. Checking the relationship between the lens numbers and the



Werramatic (version 3) with 100mm Cardinar f4 lens.

housing numbers on the inset scales revealed a smooth, chronological development in all areas.

That's how my dating line for Jena lenses was determined. Actually, the line connected nicely with the prewar data of Carl Zeiss lenses, with a slant due to WW II. Incidentally, I have dating curves for Voigtländer and Schneider lenses, made the same way.

To theorize from limited data is interesting and challenging. Data (sometimes pencil-marked dates) may be found inside your cameras or stamped on the back of selenium cells. Shutter types, ASA/DIN dials or minor differences such as strap lugs supply valuable data. Look for numbers the next time you hold a camera. Perhaps the housing has stamped numbers that indicate when it was die-cast. This detective work is fun. By accumulating data, a new story may evolve to prove or to disprove my hypothesis presented here.



Bottom of a Werra model from the mid-1960s.

WERRA MODELS: ANOTHER VIEW

The following table was adapted by the editors from the pages on the Werra which appear in the invaluable but now out-of-print "Zeiss Cameras 1945 - 1975" by Bernd Otto and Kurt Juettner, published in Frankfurt in 1983.

WERRA

Fixed Lens, no meter or rangefinder.

Year	Lens	Shutter
1954-	Novonar 3.5	VEB Zeiss Ikon 1/250, X
1954-	Tessar 2.8	VEB Zeiss Ikon 1/250, X
1954-	Tessar 2.8	Compur Rap. 1/500, X
1955-56	Tessar 2.8	Synch. Compur 1/500, MX, ST

WERRA I

Fixed lens, no meter or rangefinder.

?-1961	Tessar 2.8	Vebur 1/250, X
?-1961	Tessar 2.8	Prestor 1/500, MX, ST
1961-	Tessar 2.8	Prestor 1/750, MX, ST

WERRA II

Fixed lens, no rangefinder, uncoupled meter with flap.

1957-59	Tessar 2.8	Vebur 1/250, X
1959-61	Tessar 2.8	Prestor 1/500, MX, ST
1961-	Tessar 2.8	Prestor 1/750, MX, ST

WERRA III

Interchangeable lenses, coupled rangefinder, no meter.

1957-59	Tessar 2.8	Vebur 1/250, X
1959-61	Tessar 2.8	Prestor 1/500, MX, ST
1961-	Tessar 2.8	Prestor 1/750, MX, ST

WERRA IV

Interchangeable lenses, coupled r'finder, uncoupled meter with flap.

1957-59	Tessar 2.8	Vebur 1/250, X
1959-61	Tessar 2.8	Prestor 1/500, MX, ST
1961-64	Tessar 2.8	Prestor 1/750, MX, ST

WERRA V

Interchangeable lenses, coupled r'finder, coupled meter w. flap.

1960	Tessar 2.8	Prestor 1/500, MX, ST
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WERRAMATIC

Interchangeable lenses, coupled r'finder, coupled meter without flap.

1961-	Tessar 2.8	Prestor 1/750, MX, ST
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WERRAMAT

Fixed lens, no rangefinder, coupled meter without flap.

1961-	Tessar 2.8	Prestor 1/750, MX, ST
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DISASSEMBLY OF THE SUPER NETTEL I

Segundo Alvarado, Orense, Spain

The Super Nettel I is a rare and very fine camera which is held in high esteem by collectors. It is also a useful camera: one with which, if properly taken care of, beautiful photographs may be obtained even today, although it was manufactured almost sixty years ago.

The disassembly of this camera for routine maintenance and cleaning is not particularly complicated. It lies within the capabilities of any amateur with a bit of experience in

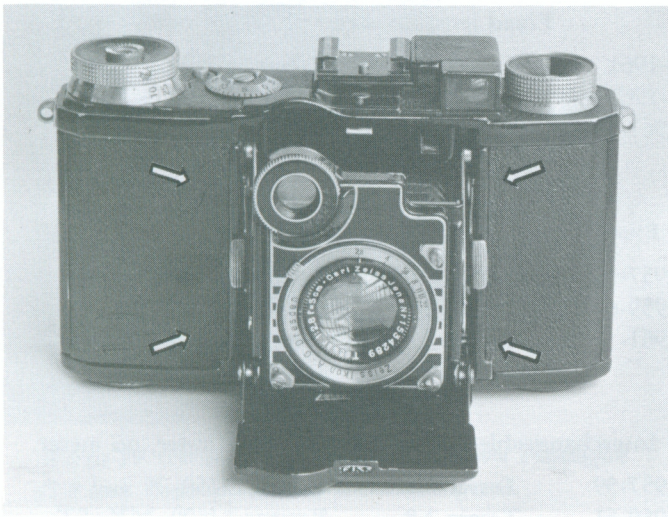


Figure 1.

camera repair who has elementary tools at his disposal. Problems lie mainly in the difficulty of obtaining spare parts, particularly shutter tape.

Since the mechanical principles of the Super Nettel I are the same as those of the prewar Contax (although there are numerous differences in details), repair instructions for the Contax may serve as general help and orientation for working on the Super Nettel I. Romney's Contax Repair Guide (from Ed Romney, Box 96, Emlenton, PA 16373) will be useful here.

In the following instructions, the "left" and "right" sides of the camera are as viewed from the front of the camera.

Stripping the Camera

1. Remove the rewind knob by undoing its central screw. (It is not necessary to remove the winding and speed-selection knob.) Remove back of camera.
2. Partially peel away the leather panels on both sides of the front of the camera, starting with the lower edges nearest the lens. It is very important to go slowly to avoid cosmetic damage to the leather or camera body. (Be careful with the small pieces of metal foil covering holes in the housing which provide access to the interior parts. Save them for

reuse.) Peel the leather back far enough to clear the whole lens carriage plate. It's held in place by four screws whose positions are shown in Figure 1.

3. Since the back of the camera has already been removed, unscrew the four nicked screws that hold the bottom metal cover in place and remove it. (See Figure 2.)

4. By unscrewing the four front screws shown in Figure 1 (watch out for any shims), the complete lens carriage with lens attached can be removed and put aside. To hold it closed, fold and secure with a rubber band. When reattaching this part, it is advisable to check the leveling of the lens carriage plate: the perpendicular relationship between optical axis and focal plane.

5. Now remove the two black screws pointing upwards in the inner part of both film chambers (See Figure 2). Lift the camera chassis (with winding mechanism, shutter and range-viewfinder) out of the camera housing.

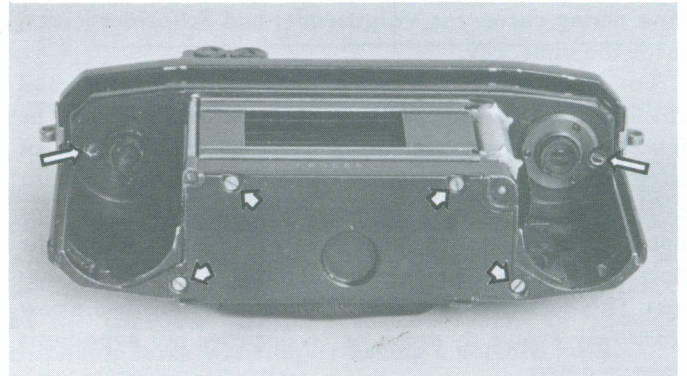


Figure 2.

Removing Range-viewfinder

1. Remove the exposure counter disk held by its central screw as shown in Figure 3. (Don't overlook any washers.)
2. Peel back the leather panel between accessory shoe and winding knob.
3. Remove the two screws at the rear of the accessory shoe and one (the stop pin) at the front.
4. Carefully peel back the leather piece over the finder.
5. Unscrew the two screws on the left side, near the edge of the range-viewfinder assembly. Leave the screw at the bottom of the hole undisturbed, since it holds the shutter frame in place.
6. After unscrewing another long screw on the right side of viewfinder (all three screws are marked in Figure 3), the range-viewfinder assembly can be removed.
7. The front lens of the viewfinder can be disassembled for

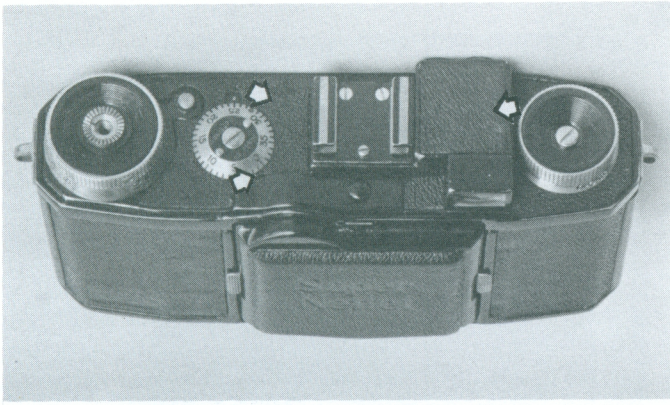


Figure 3.

cleaning by removing two screws, one on top and the other on the right side of the viewfinder housing.

8. Underneath the range-viewfinder assembly the following may be found:

- (a) The latch which holds the front bed folded and closed. It is attached to the chassis by two screws.
- (b) The glass prism for the range-viewfinder, also held in place by two screws.

It is very important to accurately mark the position of both pieces, in order to avoid misalignment when reassembling.

Dismantling the Lens

1. It is very easy to remove the lens (with its diaphragm adjusting ring attached) from the lens carriage, by unscrewing the retaining ring at rear, while securely holding the front of lens barrel. Care is necessary to avoid damage to front lens element or to the threads of the focusing helix. A second retaining ring around the one just mentioned holds the bellows to the lens support.

2. At this point, it is possible to further disassemble the lens for cleaning and/or the focusing system for cleaning and lubrication (by removing the black cover plate around the lens). Care must be taken to mark the relative positions of the rotating prism for the rangefinder and the multi-start male and female threads of the focusing helix.

3. Before reassembly, it may be advisable to check the lens focusing at infinity by mounting it on the lens carriage, and then screwing this carriage on the camera housing. Add or subtract shims (which are really washers) to obtain perfect focus. (It is also possible to take out the lens barrel without dismantling the camera, by unscrewing the retaining ring through the film aperture with the shutter open.)

4. On top of the black cover plate around the lens, there is a tiny screw which provides access to a second screw below it. The latter screw adjusts the rangefinder for infinity.

Working on Shutter and Winding Mechanisms

With the shutter and film transport mechanisms out of the camera housing, they can be easily inspected, cleaned and lubricated. General instructions for the prewar Contax are applicable here.

1. Access to curtains and rollers is possible by dismantling

the front and rear cover plates. The rear plate (with ramps for the curtains) is secured by two screws pointing upwards in the shutter chassis. The front plate comes out after unscrewing the two screws with rounded nuts which are on the bottom of the shutter frame.

2. A basic inspection of shutter functioning can be made by checking the following points with the shutter cocked:

- (a) The main lever should rest on the control cam (at the left side of the shutter frame) exactly at the points marked in Figure 4. Between 1/1000 and 1/100 second there is no retard in the curtain's travel; at 1/50 second, the first step of the control cam activates the first clockwork mechanism. At 1/10 second, the second cam step activates the second clockwork mechanism. The first "jump" of the control cam should occur precisely when the speed is changed from 1/100 to 1/50 second. The second "jump" should occur when the speed is changed from 1/25 to 1/10 second.
- (b) The separation between the curtains at 1/1000 second must be no more than 2mm (upper position; shutter cocked).
- (c) The curtain travel time can be adjusted by setting the tension of the take-up roller. This is done by turning (in half turns) the central screw and round plate, after removing the two little screws which secure the round plate (left side, bottom of shutter frame). Replacing these two screws is easy if the plate is held down with the thumb, preventing its unwinding.

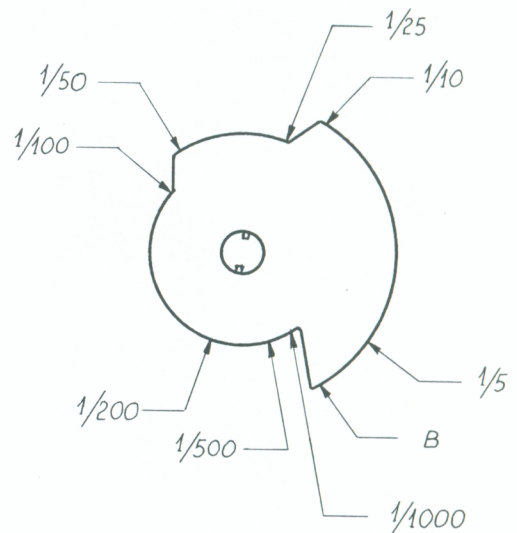
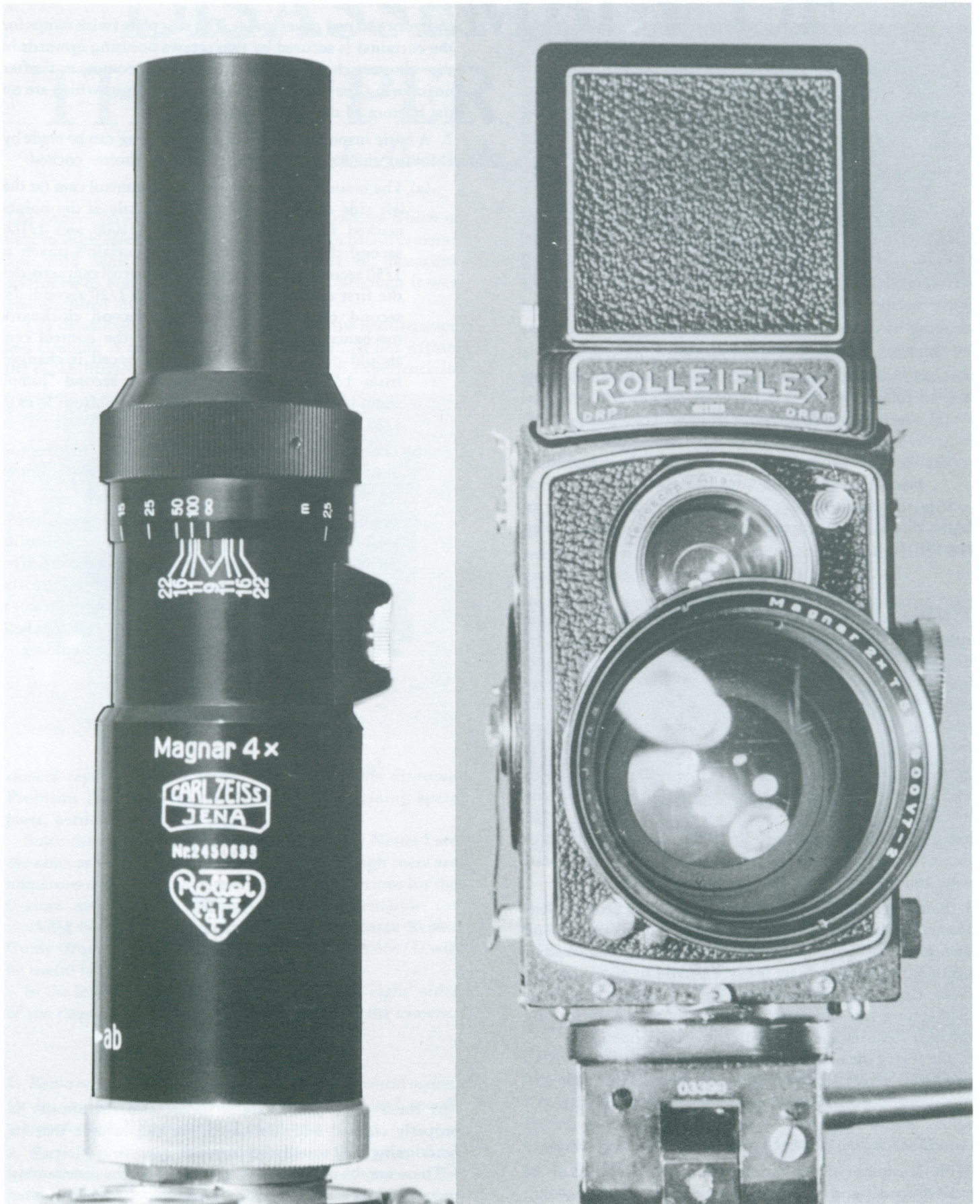


Figure 4.

If these three points are in order and the shutter is properly cleaned and lubricated, we can assume that its functioning will usually be correct.

These are the principal steps required for the disassembly and simple servicing of the Super Nettel I. Many other details have been omitted for the sake of brevity. I am sure that they will be readily filled in by the aficionado who wishes to put my instructions into practice.



Left: a Magnar 4x attached to postwar Rolleiflex T. At right is Carl Zeiss Jena Magnar 2x. Serial number is T559900V7-2. "V" stands for Versuch (experimental). Lens is mounted on a prewar Rolleiflex Automat (Type 1).

ZEISS MAGNARS

Terence Sheeby, Orpington, Kent, England

Since writing the article for this Journal on Carl Zeiss Rollei-Mutars in Volume 13, Number 2, Autumn 1991, I have been actively engaged in research with regard to the very first attempts by Franke & Heidecke to construct an auxiliary telephoto lens for their world-famous Rolleiflex twin-lens reflex camera.

The Carl Zeiss Jena Magnar 4X auxiliary telephoto was designed and presented to the management of Franke & Heidecke in the late 1930s and was accepted. Carl Zeiss began manufacturing the Magnar 4X in 1938 and ceased its production in 1939.

My research at the Rolleiflex plant in Braunschweig, Germany, now doing business as Rollei Fototechnic, revealed that after World War II more than 900 units were in stock at the Braunschweig plant when the British Army Of Occupation took over its administration in 1945. After the British Army left, Franke & Heidecke were finally able to market their products without restriction. All the remaining stock of Magnars was sold to raise much-needed capital for restoring the factory which had been heavily damaged by Allied bombing raids. Money was also needed for the acquisition of machine tools, which at that time were only available secondhand.

The German photographic equipment catalog "Photo Porst" of 1939 listed the Magnar as follows (prices are in Reich Marks): Magnar f9 lens: RM 195 (the Rolleiflex Automat 6x6 was then RM 240); Tripod ring: RM 9.75; Bayonet ring: RM 10; Leather case: RM 12.50.

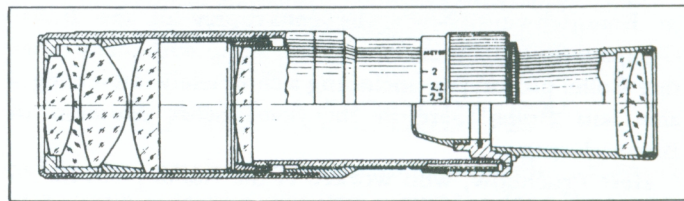
The Magnar lens was originally developed by Carl Zeiss Jena for the Luftwaffe (German Air Force) to be attached to the front of a Carl Zeiss 85mm f2 objective used on a Contax camera. This Mark I Magnar can be identified by the "4X" engraving on the lens barrel. The "x" was larger in size than the "4" that appeared on the Mark II version for the Rolleiflex camera. The Mark I version had an aperture range of f9 to f32; the Mark II aperture range was f9 to f22. On the Mark II, the Rollei F&H logo also appeared.

The Mark I version for the Contax proved to be a disaster and was immediately scrapped. The Mark II version for the Rolleiflex, pleased both the German Air Force and the Army. Consequently, many units were sold to them. They used the Magnar successfully in combination with a leather binocular extension hood which enabled the photographer to view the image on the ground glass screen without the distraction of extraneous light.

When the Magnar went on sale to the general public in 1938, the Rolleiflex Automat had only a single bayonet on the taking lens. This prevented the image being viewed on the focussing screen. When using this model, you set the camera lens to Infinity and the Magnar to Infinity. You

viewed the image framed by a small wire square with a 3/4" center which rested on the ground glass. This gave an approximate indication of the picture area.

In 1939 a modified version of the Rolleiflex Automat was put on the market. It had a size I bayonet on both viewing and taking lenses. On this camera the Magnar was attached



Magnar 4x.

to the viewing lens and the image was viewed through the focussing hood of the camera. Sharp focus was then obtained by turning the focussing ring of the Magnar. Once sharp focus had been obtained, the Magnar was uncoupled from the viewing lens, transferred to the bayonet mount of the taking lens, and the exposure made. The image formed by the Magnar was upside-down, so focussing and exposing was best carried out with the aid of a sturdy tripod.

Technical Specifications

The Magnar quadruples focal length to 300mm and 240mm in the case of the 6x6 and 4x4 sizes respectively.

Lens Speed: f9 with the 6x6 size and f7.3 with the 4x4 size so that instantaneous exposures are easily possible in good light.

Exposure Time: 1.5 times longer than usual.

Sharpness: At full aperture (f9) the Magnar shows a section about 3x3 cm in the center of the picture with sharp definition. At the corners of the 6x6 size there is a loss of sharpness that can be remedied by stopping down. At f22 complete sharpness is obtained. The Rolleikin 35mm attachment proves very useful with the Magnar.

Depth of Focus: The depth-of-focus ring provided on the highly sensitive focussing mechanism of the Magnar lens shows small values owing to the long focal length. It is therefore essential to focus accurately and if necessary to stop well down. The depth of focus is calculated on the basis of a circle of confusion of 1/1000 the diagonal of the negative.

Focussing Range: Infinity to 2.5 meters.

Tripod Ring: For use with a tripod, this ring is available separately. It incorporates a tripod bush. The image on the ground glass is inverted, but this can be corrected by turning the camera into a horizontal position by means of the tripod ring and observing the image from the side on the focussing screen.

Filters: Supplied for the Magnar in special mounts.

CARL ZEISS JENA MAGNAR 2X

This lens was constructed by the East German Zeiss Jena company in 1952 and was reportedly on sale until 1955 when it was withdrawn from the market. The lens was never sanctioned by Franke and Heidecke, and to my knowledge was never advertised in Europe or the USA. Some reports say that it was marketed in the USA only under the name Carl Zeiss Duonar 2X. It was produced in two versions, bayonet size I and bayonet size II. The price in 1952 was 180 DM. The Magnar 2X was suitable only for use with the Rolleikin 35mm film attachment since the corners of the 6x6 negative were heavily vignetted.

My research into both lenses led me to Herr Claus Prochnow, an ex-employee of Franke & Heidecke. It was he who sent me the photographs reproduced here showing the Magnar 4X and the Magnar 2X (Duonar). At the time of being photographed these lenses were in the Rollei Museum in Braunschweig. Since the bankruptcy of the Rollei Company in 1981, these two lenses, along with many other rare Rollei prototypes (including a completely interchangeable lens Rollei!) are in the Staetisches Museum in Braunschweig.

Herr Prochnow, who worked at the Rollei plant for 36 years in the capacity of Manager in Design/Engineering,

stated that the Magnar 2X was never produced except in prototype form. The photograph of the Magnar 2X (Duonar) attached to a single bayonet Rollei Automat of 1938 vintage shows the number T 559900 V7-2 around the lens mount. 'V' is the German abbreviation for "Versuch" meaning "experimental", "7" stands for piece number 7, and "2" is version 2. I am indebted to Herr Prochnow for the use of these photographs.

The author would like to hear from anyone in the United States who owns a Magnar 4X and especially a Magnar 2X (Duonar) as to its performance and of any advertising matter relating to these units.

Further reading on the subject of both the Carl Zeiss Magnar 4X and 2X: **THE HISTORY OF THE ROLLEI TLR** by Ian Parker, published 1992. (Enquiries to the author, T.J. Sheehy.)

ROLLEIFLEX/ROLLEICORD DIE ZWEIAUGIGEN 1928-1991 by Udo Afalter. Published 1991. Lindenmanns Photobuchhandlung, Stuttgart, Germany.

THE ROLLEI MANUAL by Alec Pearlman. The Fountain Press, 5th Edition, 1971.



On display at the Rollei Museum in Braunschweig in 1981: 2x and 4x Magnars surrounded by other Rollei products. 2x Magnar is No. 2450656; 4x Magnar is the experimental No. T559900V7-2.

LICHTSTRAHLEN

Light Rays: Notes of Interest to Those Interested in Zeiss and Its History



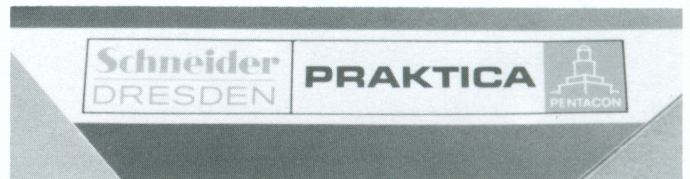
TAKE A SECOND LOOK

This is not the famous mid-1930s photograph (see below) of a photographer aiming the 180mm f2.8 Olympia Sonnar with the aid of the rare Contax chest support. It's member Allen Numanò, who has almost exactly recreated the pose with his own historic equipment. More than half a century separates the two photos!



RARE ACCESSORY

The photograph above comes from member John Keesing of Victoria, Australia. The item carries the Zeiss Ikon logo, and "f=75mm". On the reverse is the number 425. What is it? A look through the Society's publication "Zeiss Ikon Catalog Numbers — 1926-1972" makes the job of identification easy: It's an accessory rangefinder/viewfinder designed for the Contina III when using an accessory 75mm lens in place of the normal 45mm lens. The Contina III (introduced at the 1956 Photokina) had interchangeable front lens elements, one of which appears to have been a 75mm. According to "Catalog Numbers", a 30mm viewfinder for the Contina III (#422) also was produced, which suggests that a 30mm lens existed for this camera.



PENTACON'S FUTURE

Pentacón may well prove to be one of the survivors of the former East German camera industry which grew out of Zeiss Ikon's prewar enterprises in Dresden. It was taken over in July 1991, by Jos. Schneider, the lens manufacturer. Production of Praktica BX20S 35mm SLR cameras began in May 1992. Pentacón also produces 35mm "point and shoot" cameras and a line of binoculars, all under the Praktica name.

Pentacón retains the Pentacón tower as part of its trademark. But the building itself (originally the Ernemann factory on Schandauer Strasse) will become the technical museum of the city of Dresden, a large portion of whose contents will be photographic and optical equipment.

In a similar development, the firm of Doctor Optic took over the former Carl Zeiss Jena binocular production facilities in July 1991. Doctor is continuing to produce and market a number of the former East German firm's products under its own name.

TOGETHER AGAIN: JENA AND OBERKOCHEN



No longer separated by politics, Zeiss in Oberkochen (above) and Zeiss in Jena (below) are reunited as a single firm.

