# ZEISS HISTORICA

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The Zeiss Historica Society of America is an educational, non-profit society 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: Two versions of the rare black Contax II.*

*BACK COVER: Ad from a 1970 issue of Modern Photography shows the pride of the Ikoflex line: the Favorit.*

# ILLUSTRATION SOURCES

*Front cover and Black Contax article, Dr. Stefan Baumgartner. • Jena Museum, courtesy Dr. Helga Beez. • Fernseh AG article, courtesy Michael Buckland. • Battling Binoculars article, William Reid. • Folding Telescope, Andre Surmont. (Catalog illustration courtesy Nick Grossman.) • Zeiss Meters, courtesy Larry Gubas. • Contaflex I diagrams, courtesy Yasuo Nannichi. • Back cover from "Zeiss Ikon Advertising," courtesy Terence Sheehy.*

# PRESIDENT'S LETTER

The recent campaign to attract new members via advertisements in the collectible photographic press has been a measurable success, enlarging our ranks by over seventy new members. Maintaining 15% annual growth for a few years, not an impossibility, would assure the flow of funds and fresh ideas and energies we need to survive and prosper. With more members, more movers would come forward to perform the tasks which enable ZHS to interest enthusiasts in becoming and remaining members. And eventually change would take place all the way to the top–don't forget that the leadership positions are not cast in stone.

As with many of you, my association with ZHS started with my interest in Zeiss Ikon cameras. Thanks to curiosity, the *Journal*, and to the many members who have shared their enthusiasm and expertise with me, my interests now range into many other areas. I am convinced that the same qualities that draw you to the photographic output of Zeiss Ikon will make you enthusiastic about the Zeiss discoveries you can make in other fields, if you take the trouble to look. Indeed, you may even find your significant other becoming more tolerant of your hobby. Many older pieces like microscopes or telescopes from the brass era are genuinely attractive and might even be granted display space in your living room, unlike your Nettar or your Contaflex.

Our Journal makes a deliberate attempt to be fair to the entire tradition of Zeiss history. It pays tribute to this diversity by publishing articles about non-photographic items out of proportion with the stated interests of the membership. To those mainly familiar with Zeiss photographic optics, it often comes as a surprise to discover just how vast is the range. Zeiss has pioneered and produced during the last 150 years enough devices and proceeded to guarantee Zeiss Historica's exponential growth well into the next millennium.

It follows then, that one largely unexplored way to expand the membership is to tap into more of these fields. As you become more aware of the diversity and breadth of Zeiss production, you will be more apt to think of mentioning ZHS to doctors, engineers, lab technicians, stargazers–people who have a respect for fine machinery and/or optics, but who never suspected that a group like ZHS existed. You didn't either not too long ago. I encourage you to do so.

Welcome to the wide, wide world of Zeiss. The coverage of the incredible Hologon pales in comparison to that of the Zeiss Stiftung over the last century and a half!

Charlie Barringer

# BATTLING BINOCULARS

## *William Reid, Richmond, England*

Even before the 1918 Armistice, the British armed forces and their political masters were rightly concerned about the future of an optical industry threatened by intense commercial pressures from Germany. [1] Devaluation of the mark allowed Zeiss, Leitz and others to undersell the United Kingdom's smaller optical works, whose products also suffered, rightly or wrongly, from having a less exalted reputation than those of their German competitors. While government economic policy ensured that the


*The characteristic National Physical Laboratory form of broad arrow mark is inlaid in white metal on an AP 343. NPL "trademark" is punched near the test date (19) 18.*

services' binocular requirements were met by purchases from Barr and Stroud's factory in Glasgow, London's Ross works, and a handful of lesser manufacturers, the late 1920s found the National Physical Laboratory (NPL) testing those native instruments against their German rivals.[2]

In 1930 thousands of binoculars made by three or four England companies between ca. 1910 and the end of the First World War were preserved in the Royal Navy's storehouse at Chatham Dockyard. They were the Admiralty Pattern 343 (AP 343), the residue of surplus wartime procurement.[3] The typical AP 343 was a 6x30 Porro-I prism instrument, but some 8x30s were given the same Admiralty pattern number. Neither was a match for the 7x50 Zeiss Binoctar, whose high standard the British Admiralty wanted to equal in a new Royal Navy glass to complement, and eventually to replace the AP 343.[4]

It is not yet possible to say with certainty when the Admiralty placed its first contract for a British 7x50 binocular. Messrs. Barr and Stroud aver that they supplied the Royal Navy with their CF15 civilian model in 1929.[5] They did indeed provide a batch of sixteen CF15s in the last two months of 1929. But these were intended only for comparative tests against the Binoctar, and an equal number of Ross 7x50s, whose optical system shared cemented prisms with the increased light transmisssion that their eight air-to-glass surfaces gave compared with the Binoctar's ten. These tests were the finale of a series that had already eliminated other designs manufactured by Barr and Stroud and by Ross, as well as inferior glasses by Dollond, Kershaw, and Henry Hughes.[6] Barr and Stroud's CF15 was the victor. It was adopted by the Royal Navy and given the

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Prism Glass of Highest light-transmitting capacity. Supreme at dusk or in advanced twilight

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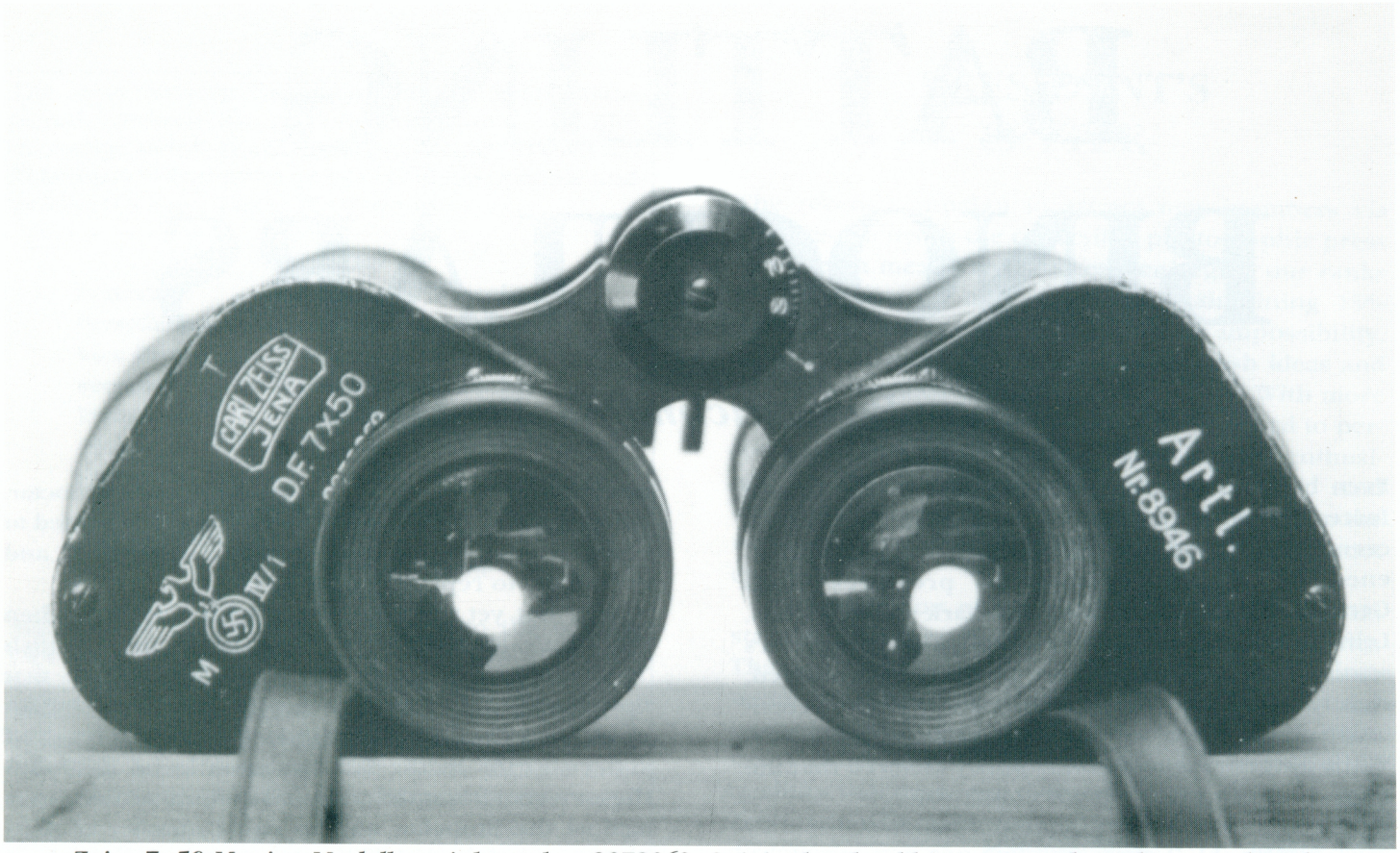
*Binoctar, as shown in the 1929 sales leaflet ZEISS FIELD GLASSES.*

service designation Admiralty Pattern 1900 (AP 1900).

By the spring of 1938, the year of the Munich crisis, it seemed inevitable that Britain would again have to fight Germany. Even as the Royal Navy mobilized for war, the Commander-in-Chief Home Fleet sought assurances from the director of the Admiralty Research Laboratory (ARL)[7] that a German look-out using a Zeiss 7x50 binocular would not spot an enemy ship quicker than his British opponent using a Barr and Stroud 7x50. The Royal Navy feared that




*Zeiss 7x50 Marine Modell, serial number 2073069. Original red rubber eyecups have been replaced to preserve them. This glass came from a U-Boat which surrendered in May 1945. Its markings are similar to those on #2061199 which was recovered from the U-570 in August 1941.*

the outcome of a sea battle might hinge on the difference in the quality of instruments used by the opposing fleets.[8]

The C-in-C's worries led to more comparative tests, this time at the ARL. The instruments tested were:

- A Zeiss Binoctar (serial unknown) bought in 1927.
- An AP 1900 (serial 6697) bought from Barr and Stroud in 1931.
- A Ross Stepnite (serial 104830), chosen in 1935 from the available native 7x50s to be the British Army's Binocular Prismatic Number 5 Mark I from Coast Watching and Anti-aircraft Searchlight Units.[9]
- An AP 1900A (serial unknown). This was the Barr and Stroud AP 1900 with "a clicker gear, fitted to the eyepieces and the interocular adjustment to facilitate setting to individual requirements at night."[10] It also had Barr and Stroud's patent extendable spray-guards and three colored filters brought into use by means of knurled knobs below each prism housing.

To ensure that they were as fair as possible, the ARL subsequently borrowed nine more Stepnites, part of a recent War Office contract delivered by Ross, and bought a new Zeiss Binoctar specially for the tests.

As the examiners knew that their sample was not statistically valid, their report was hedged with qualifications. Nonetheless they were brutally frank about the inadequacies of the AP 1900: "It is most unfortunate that this type was ever accepted for Service use as its defects are obvious, and it may be difficult to remove an earlier adverse Naval opinion of the optical quality of British glasses based on this particular example." The new Ross Stepnites got off more lightly. Although they were less good than one purchased in 1932, the makers were fully aware of a deterioration in quality and attributed it to the poorer quality of the available prism glass. The earli-

*Zeiss 7x50 Marine Modell.*

*CF41 (#70119) manufactured in 1945 by Barr and Stroud, Glasgow and London. Designated as AP 1900A by the Admiralty, it was later renumbered AC 2021. Versions of the AP 1900 series remained the standard Royal Navy binocular until the 1979 introduction of the Avimo Binocular Prismatic General Purpose, 7x42 (Naval Service L11A1.) Desiccator vent-holes are sealed with screw-plugs secured by chains. In addition to indicating government ownership, broad yellow arrows show the tops of the barrels and make the instrument easier to see in poor light.*

er Stepnites used specially chosen, flaw - and bubble-free barium light flint glass, but as "the process of selection so increased optical production costs" Ross had to resort to ordinary dense flint glass whenever they had a large contract. Strangely, this excuse for quality loss does not seem to have been challenged by the examiners.

In tests the 1927 Binoctar transmitted 57% of light at the center of the field against 61% for the more recent example from Zeiss. Both figures were some 9% less than the British binoculars. Although the Binoctars were superior in optical quality the testers were not certain that the lighter aluminum body of the modern version would stand up to hard usage at sea as well as brass did. For day use the order of merit was Zeiss first, then Ross, followed by Barr and Strouds. By night the British instruments, with their extra light transmitting capability, gave marginally better results. "The differences", wrote the tester, "are not perhaps great but they appear to be definite." He closed with a plea that the British optical trade should find good supplies of barium light flint glass.

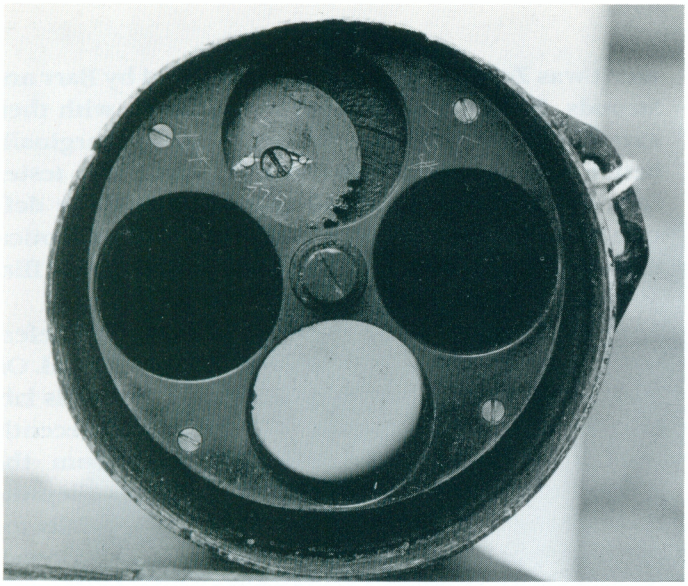
It is hardly surpising that the report drew a defensive reply from Martin Strang of Barr and Stroud. On December 30, 1938 he protested that tests by his laboratories on a Binoctar, on "one limb" of a recently introduced Zeiss Septarem borrowed from the Admiralty Research Laboratory, and on a Stepnite "bought in the market in the usual way" specially for the tests, against a CF41 (AP 1900A) yielded a result more complimentary to his company's product.[11] His special pleading persuaded officialdom that an interferometer should be used in any future tests to "eliminate the somewhat qualitative and personal judgment of the examiner". The ARL's Director of Scientific Research did not consider that a laboratory test would be the last word. It was worth doing, he thought, but only sea trials would be conclusive.[12]

So far, the test laboratories could only compare British instruments with German civilian glasses, albeit of types that were optically identical to those carried aboard most German vessels. Two years into the war, a uniquely successful action presented them with an opportunity to test examples of two standard German naval binoculars.

At 10:50 A.M. on August 27, 1941, eighty miles south of Iceland, a Royal Air Force Lockheed Hudson attacked a German Type VIIC submarine with depth-charges and machine-gun fire. The boat started to dive, but almost immediately re-surfaced to signal surrender with a white flag; one account says it was the captain's dress shirt. At 1:45 P.M., the Hudson's call for assistance was answered by a Consolidated Catalina flying boat from Northern Ireland. It circled over the stricken submarine for seven hours until two destroyers and three trawlers arrived to tow her to Iceland.

Korvettenkapitaen Hans Joachim Rahmlow and his crew were prisoners of war. Their boat, U-570 was salvaged and examined in exquisite detail before being refitted at Chatham. After First of Class Trials she was commissioned as His Majesty's Submarine *Graph*, to fight for the rest of the war under the Royal Navy's White Ensign.[13] This is not the place to evaluate the intelligence gleaned by British scientists from having a "live" enemy submarine in their clutches. But its contribution to sub-hunting techniques adversely affected Germany's plans for the remaining years of the war at sea.[14]

Since the boat's binoculars were among the equipment that the sub's demoralized crew failed to smash or jettison, the optical specialists at the National Physical Laboratory now had something more exciting to test the British product against than elderly German glasses. Within three months of the U-570's



*Cogwheel adjustment and color filters within the lower prism housing of an AP 1900A.*

capture, they had completed an examination and preliminary tests of two Zeiss 7x50s (serials 2060070 and 2061199) for the Admiralty Research Laboratory.[15] The report records that both were marked "with the eagle and swastika and MIV/1,T, Carl Zeiss, Jena. DF7x". The first, weighing 2 lb. 8 oz. had the additional inscription "Nr 14155"; the second was a couple of ounces heavier and bore the inventory description "Artl. Nr 3059".

The comparision of the Zeiss binoculars with a Barr and Stroud AP 1900A (serial 33135) contains few surprises.

- In light-transmission, the coated Zeiss models outperformed the uncoated AP 1900A by 80% against 66%. This marked superiority was the more surprising when one remembers that the Zeiss had ten air-to-glass surfaces compared with only eight in the AP 1900A.
- The fields of view of the Zeiss glasses and the AP 1900A were similar. But there were marked differences in the eye-relief. No 2061199 had 24mm, long enough to allow its use with a gas-mask, against 15mm for 2060070 and 10mm for the British glass.
- The Zeiss instruments were optically superior.
- Field brightness was better in the AP 1900A than in the Zeiss.
- The graticule in the Zeiss 2061199 marked "Artl. Nr 3059" was much finer (2 minutes at the eye) than either the Royal Navy's AP 1907A (4 minutes) or the AP 1900B (3 minutes). (Zeiss 2060070 had no graticule.)
- The pairs of filters carried in the Zeiss cases were less convenient than the integral filters of the AP 1900A. The latter, however, were thought to be more susceptible to damage by moisture.
- The Zeiss glasses were appreciably lighter in weight than their British equivalent.

Almost exactly twelve months after its capture, the Zeiss 2060070, described as "apparently unused", was tested once more. This was to establish which method used to waterproof it and the following ten British 7x50 instruments was best, and why.[16]

- Four Barr and Stroud AP 1900As (31234, 31255, 31295 and 31328), supplied in July 1941. They were well sealed, with color-wheel filters; two had protective rubber sleeves.
- Two Ross Stepnites (104830 and 112915), reconditioned by Ross before they underwent sea trials.
- A pattern 1900 monocular "with eyepiece stuffing gland" based on a design suggested by HMS Thunderbolt.[17]
- A Ross Stepnite with Gaco seal.[18]

A four-page report concluded that three factors contributed to the excellent Zeiss sealing:

"a) The exactitude with which mating components fit one another. The focusing screw is an outstanding example of this, its precision nature and uniformity of profile making possible relative rotation between sleeve and socket without the extrusion of the sealing grease from the clearance spaces.

b) The non-porosity of the die casting.

c) The excellent sealing of all permanent joints."

That is the last mention I have found of the binoculars from HMS Graph, as she was already known. But another U-boat yielded up a second Zeiss DF 7x50 that is apparently identical to 2061199. We do not know that boat's number and class, only that it surrendered at Kyle of Lochalsh on Scotland's northwest coast fifty years ago. Its glass (2073069) now serves a later generation well on bird-watching expeditions.

Of the Zeiss instruments "liberated" like these at the end of the war–and there were many thousands, for some men sought binoculars as others might the Holy Grail–those from the U-570 have a special niche in the history of British optical testing procedures. Her periscope is in the Royal Air Force Museum, a memorial to a uniquely successful air action.[19] I would like to think that her binoculars, too, are in safe hands.

## ACKNOWLEDGMENTS

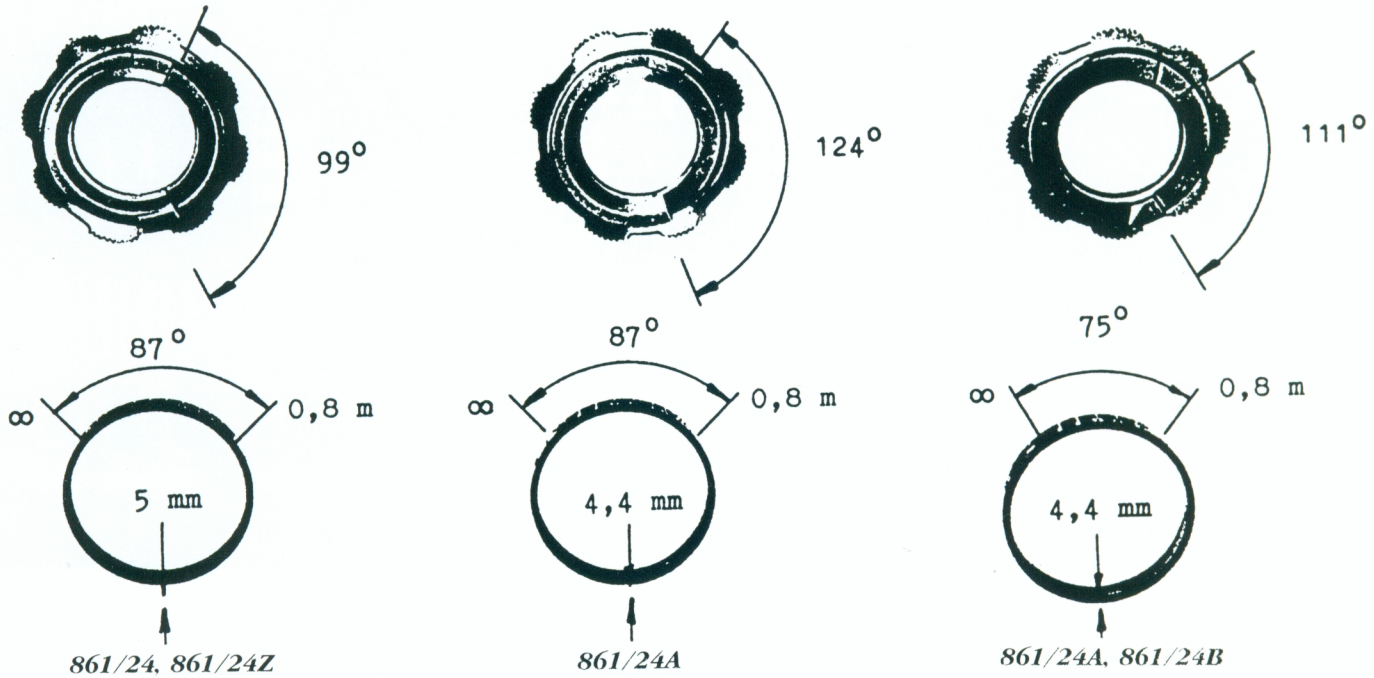
More than a thousand years of world history are recorded in the documents preserved in Britain's national archive, the Public Record Office. Among a vast and varied collection of papers from the Admiralty, which was responsible for the Royal Navy's ships and their equipment, are reports on the binoculars used by both sides at the height of the Battle of the Atlantic. They have provided much of the material for this article. I am grateful to the staff of the Public Record Office for their courtesy and efficiency over many years.

For most of the time that I have been interested in binocular history John A. Gould has been unsparing with his advice. To him and to Andrew Cormack of the Aircraft Department, Royal Air Force Museum, I am deeply indebted for their invaluable and unstinting help with this article and many other matters.

***William Reid***

# MORE ON CONTAFLEX I VARIATIONS

*Yasuo Nannichi, Tsukuba, Japan*




*861/24, 861/24Z* *861/24A* *861/24A, 861/24B*

In the Spring 1995 issue of the Journal, Marc Small pointed out another variation on the Contaflex I: male or female filter threads on their lens rings. Earlier, in the Autumn 1987 issue, Paul Edstrom writes that one Contaflex I repair manual divides these cameras into three basic types: 861/24, 861/24Z, and 861/24A. Each type is easily recognizable.

Type 861/24 carries the old Synchro Compur shutter and a Zeiss Opton Tessar, or rarely, a Carl Zeiss Tessar.

On the outside, type 861/24Z differs little from the earlier model, except in its diaphragm setting lever. Now, this lever is spring-loaded, its shape is wider, and its position is altered: it lies near the f2.8 mark rather than between f4 and f5.6.

Type 861/24A is equipped with a new Compur MXV, and uses the geometrical series of speed: 1, 2, 4, 8, 15, 30, etc.

A fourth variation – Type 861/24B – is mentioned in the addenda of the repair manual. Here, the male thread on the lens ring is changed to a female thread. From the data in the addenda, it appears that the change in threads was made not later than 1956.

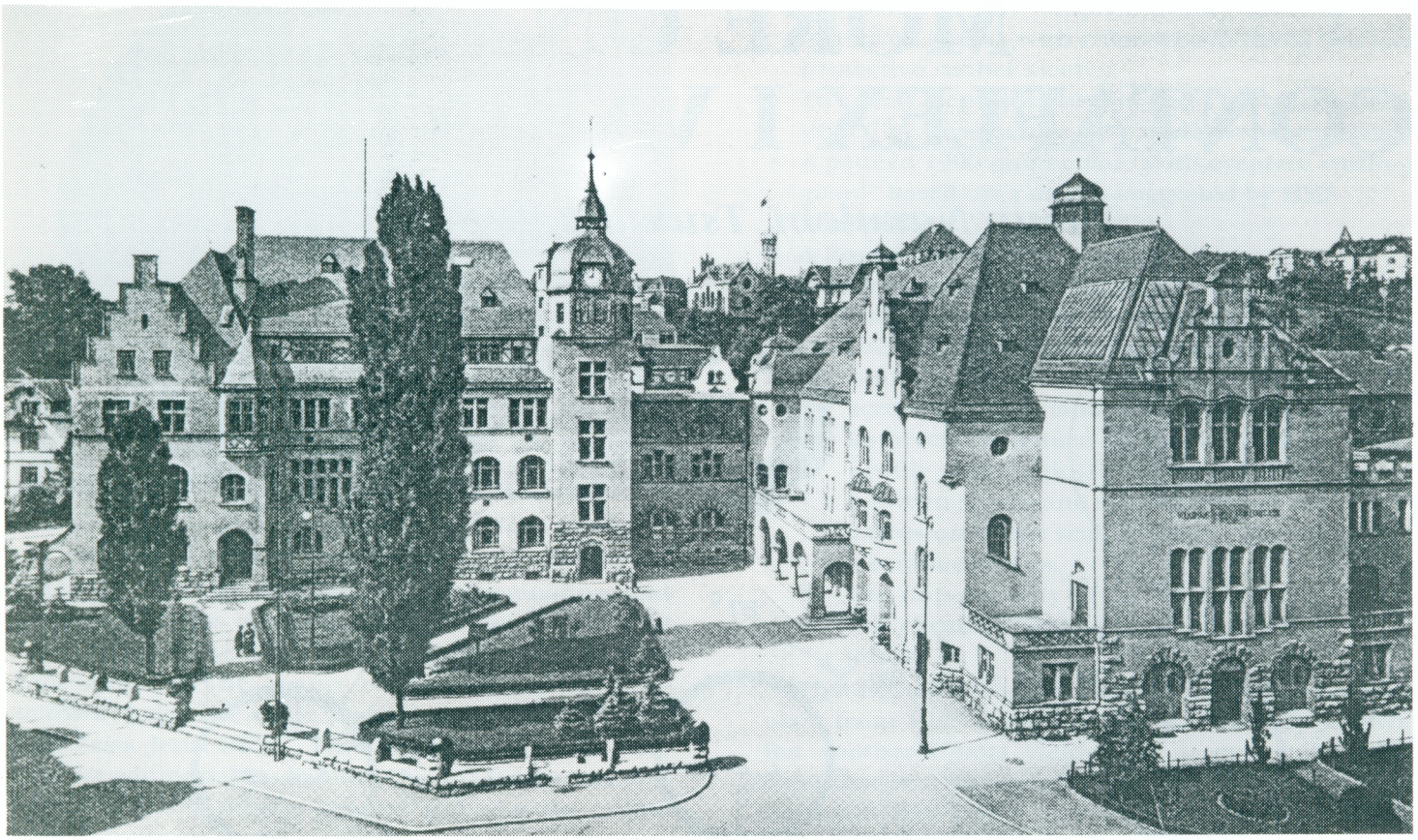
It may be useful to add a few words on variations of the 45mm f2.8 Tessar. The early version of this lens required rotating the focusing ring 87 degrees to focus from infinity to 0.8 meters. Later, this was reduced to only 75 degrees. I conclude that this alteration was due to a redesign of the lens using new glass with a higher refractive index. Such glass would require less displacement of the front element to achieve the same focusing range.

You may also notice a difference in the cut angle of the focusing ring. As shown in the diagram, it may be either 99, 124, or 111 degrees. The differences from the focus dial angle (12, 37, or 35 degrees respectively) provide space for the focus rotation stopper. A larger, stronger stopper can be fitted within a greater angular difference.

Zeiss has always been excessively engineering-minded. The smallest fault was not overlooked, and thus redesigns of even small details were common. (The Contax I, with its innumerable variations, is a striking example.) But looking at the parts list for the Contaflex I, one can see that the last type, 861/24B, contains fewer parts than earlier versions. The reasons were no doubt cost reduction and increased reliability.

Dating a Contaflex remains a complicated task. I have accumulated data on visual features as well as serial numbers. One visual cue is the position of the strap eyelets. The eyelets on earlier cameras are located either on the slant-edge plane or at the front of the side plane. Other cameras have their eyelets positioned at the side front (later Contaflexes and Contarexes.)

When it comes to serial numbers, body numbers provide the most reliable sequence. Lens numbers are often not in sequence. Shutter numbers are even less reliable. And so the search goes on.



# A MODERN ART OF TECHNOLOGY: JENA'S OPTICAL MUSEUM

*Dr. Helga Beez, Curator*

In 1992, Jena's Optical Museum became the property of the Ernst-Abbe-Stiftung, having been in 1991 the Zeiss Museum. Still earlier in the century, when final arrangements were completed in June 1922, the Optical Museum became a reality with an extensive spectacles collection of Professor Richard Greeff (1862-1938), of the Carl Zeiss Stiftung. Today, one may confidently describe the holdings and vision of the Ernst-Abbe-Stiftung's museum, a modern art of technology.

The People's Palace or Volkshaus, which became the museum's quarters in 1922 and still continues, originated from Ernst Abbe's public spirit and social consciousness. Erected on the Carl Zeiss Platz between 1901-1903, the building held a library, a practical trade and handicraft school, a large assembly and concert hall, two lecture halls, an art gallery, studios for artists and amateur photographers, music rooms, and more.

A collection of simple and varied instruments and appliances used in the elementary teaching of physics belonging to Professor Schaeffer became the Schaeffer Museum there. Abbe also suggested the acquisition to the Carl Zeiss Foundation. For apprentices at Zeiss, the equipment served to illustrate lectures and to be used for experiments.

Not only for citizens of Jena, but also for students of the University and apprentices of the firm, this building held meetings of the factory and office staffs of the optical and glass works.

During the years 1941 and 1942, most of the holdings were carried to the Zeiss Southworks for safe keeping. Later, the cache was moved to Rothenstein, where bombing caused much damage in the surrounding area. Due to the accumulation of mildew through exposure to dampness, many microscopes made of wood, paperworks, graphics, sketches, drawings, and wood boxes that revealed the hand-

*Located opposite the Abbe memorial on the Carl Zeiss Platz, the former Volkshaus (People's Palace) opened its doors to Jena citizens in 1903. In 1921, Professor Otto Henker (1874-1926), director of medical/optical instruments at the Zeiss Works and Dr. Otto Schott (1851-1935), director of Schott Glass established the Optical Museum. This step emphasized the importance of Jena as an historical and scientific center of research and development. Today, the optical museum belongs to the Ernst-Abbe-Stiftung.*

painted views for educational peepshows disintegrated.

Everything that could be restored was restored. Much of it took place when archivist Fritz Ortlepp became administrator of the museum from April 1946 until 1958. From 1948 he served as archivist of the Carl Zeiss firm, as well.

By the mid-70s, the museum reached international recognition. A travelling exhibition of objects from the School of Opticians entitled, "Tradition and Development of Optical Precision Instruments" brought attention to the museum, not only in Germany, but also in Florence, Paris, London, Edinburgh, and Liverpool.

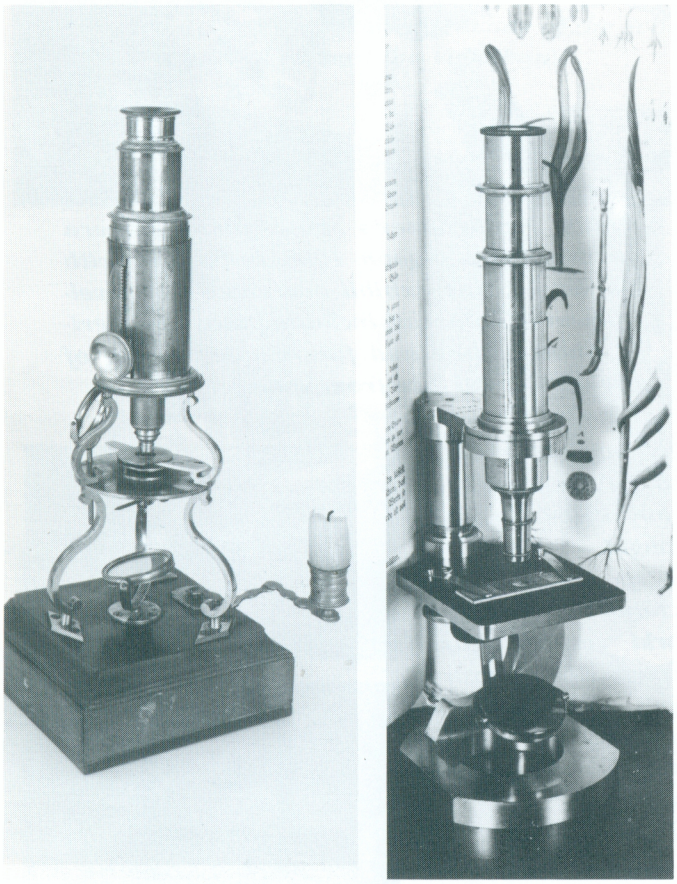
Permanent exhibitions at the museum focus on the development of the Zeiss Works through the personalities of Carl Zeiss, Ernst Abbe, and Otto Schott and their contributions to microscopy and microscopes, telescopes, eyeglasses, cameras, lenses, photogrammetry.

Altogether, under one roof, the museum documents Carl Zeiss's beginning workshop, microscope development, the products and engineering of the Carl Zeiss firm from the 19th century to the present.

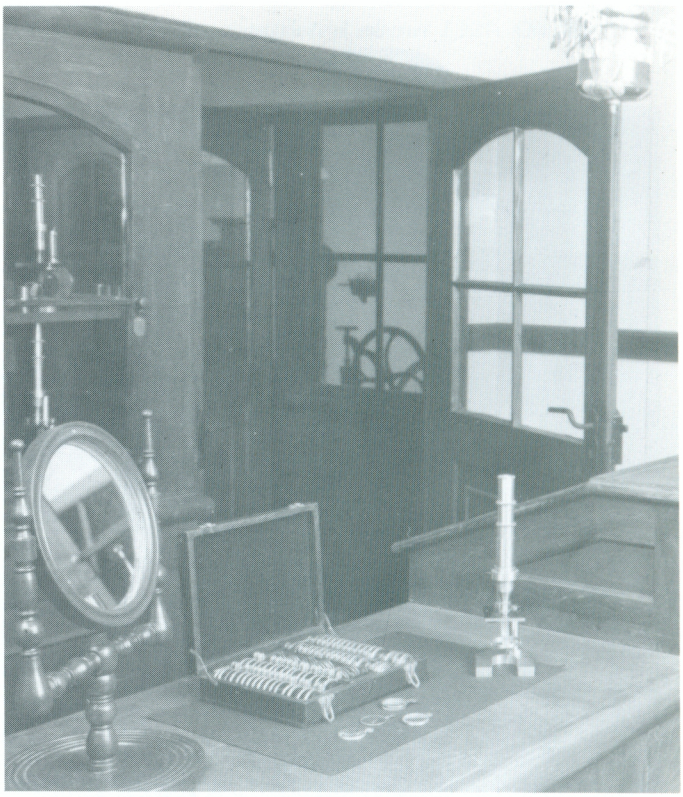
In 1993, new concepts together with modern exhibition techniques were introduced. Spatial arrangements, lighting, colors, temperature control, took considerable priority, in addition to display cases, coordinated exhibits, and comprehensive information. All these considerations help not only the objects displayed, but also stimulate viewers' interests and attention.

Holdings include something for everyone still curious and anxious to learn. They reflect the contributions of the Carl Zeiss firm since the 19th century to the present, in relation to centuries past, and to future explorations. The Ernst-Abbe-Stiftung's museum, in the Volkshaus, is where to delight in the modern art of optical technology.

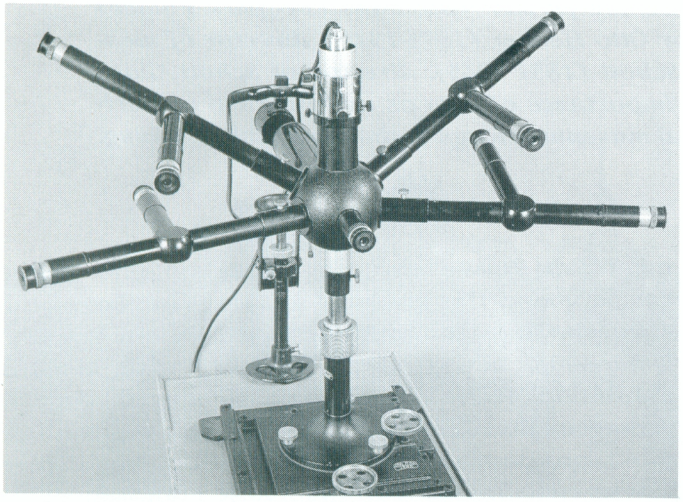
For more information, please contact: Dr. Helga Beez, Ernst-Abbe-Stiftung, Gartenstrasse 4, D-07743 Jena, Tel: (03641) 23708, Fax: (03641) 25369.



*Huntley's microscope of mid-18th century London compared with the Carl Zeiss microscope of 1860.*

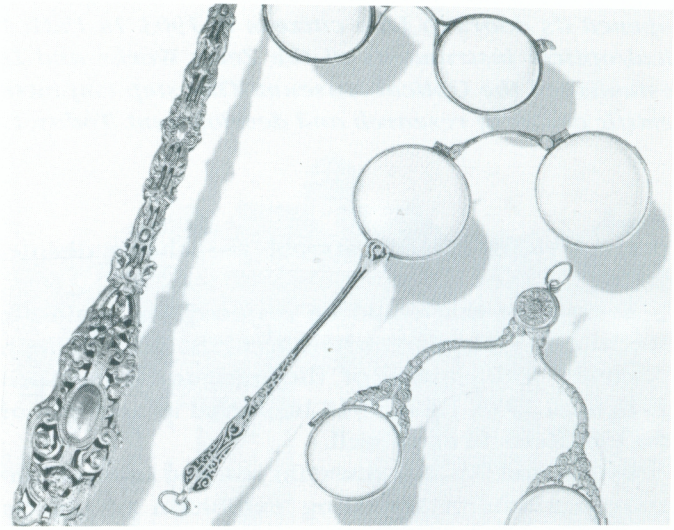


*Part of the expansion of 1988 to mark the centennial of Carl Zeiss's death included a reproduction of the sales room adjacent to the workshop. Here, Carl Zeiss offered products of his own as well as of others.*



*In 1929 the nine-eyed polyophthalmoscope, designed by Wegener at Carl Zeiss Jena. Diagnosticians observed at one moment all interior movements of the eye as it looked around. The ophthalmic exhibition examines the development and progress of Carl Zeiss instruments designed for specific purposes. A tour explains the anatomy and physiology of the eye and vision process.*

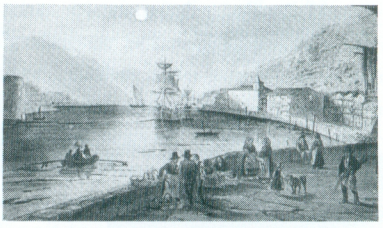
*Five telescopes of the 18th and 19th centuries from the museum's vast collection of terrestrial pocket telescopes, opera glasses, astronomical telescopes and more, from 17th to 20th century workshops.*



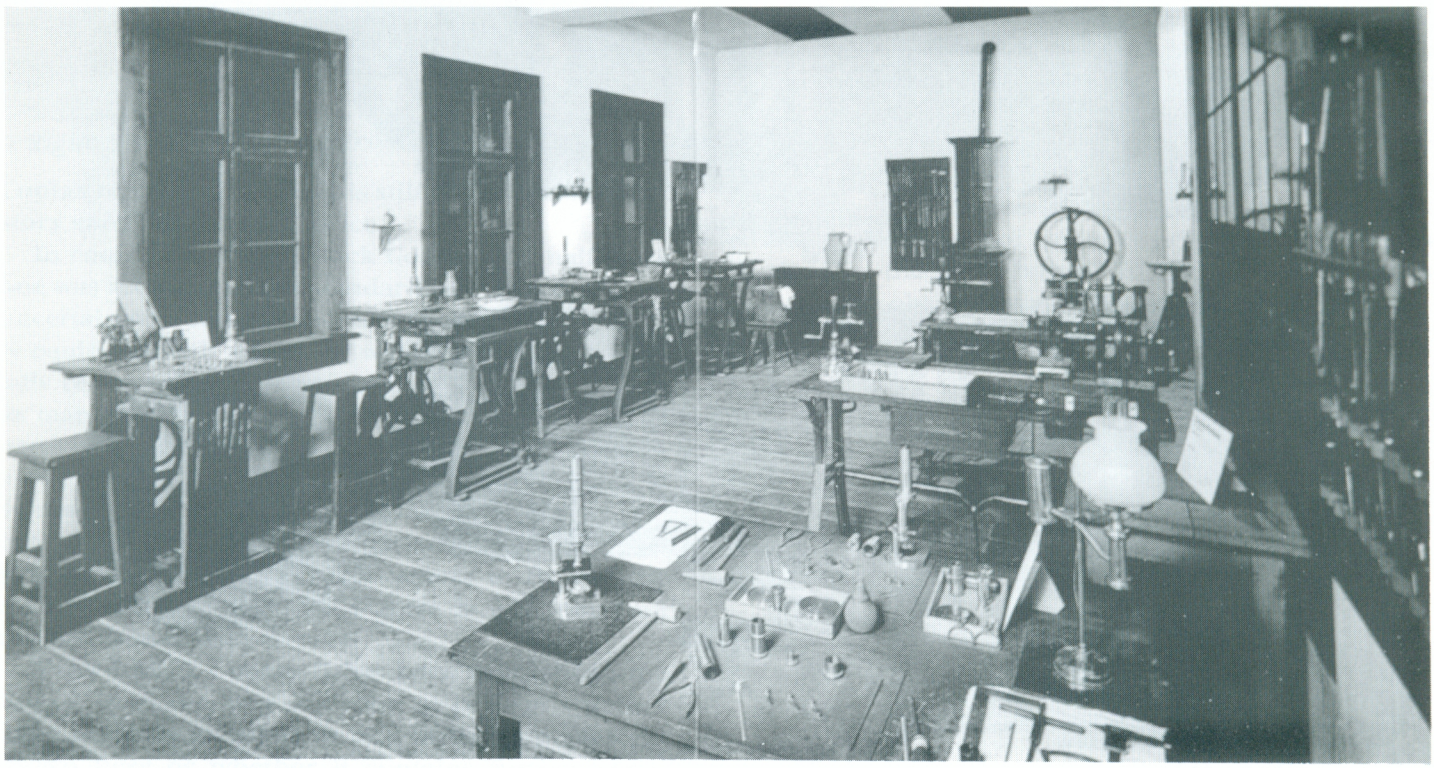
*Spring lorgnettes and scissors-type glasses record hand-held eyeglasses from 13th century onward. This exhibit, together with valuable prints and other source material, presents the history of glasses through eight centuries, from "reading stones" to comtemporary eyewear.*

*Julius Neubronner's panoramic camera strapped to a pigeon, 1908. In parallel with the lenses, this exhibit overviews the development of cameras, including those for aerial photography and for remote sensing of the earth's surface from space.*

*Peepshow pictures, 18th and 19th centuries. Before high-tech media brought information, the spoken word and pictorial information of world events came through optical instruments such as the camera obscura, the magic lantern and the peepshow. The Ernst Abbe Stiftung museum's holdings include hand-painted pictures intended for these implements.*



*Ernst Abbe's octagonal memorial, designed by the distinguished architect Henry Van de Velde (1909), stands on the triangle of the Carl Zeiss Platz. A marble bust of Abbe, created by sculptor Max Klinger (1911) rests on a pedestal in the center of the enclosure. Four bronze reliefs by Constantin Meunier depicting the story of the Zeiss Work's optical industry cover the walls. All three Belgians, widely known at that time are still respected Art Nouveau artists. In the right background, slim round-headed arches organize the facade of the School of Opticians of Jena, completed about 1926. On the left is a partial view of the Volkshaus.*



*Guided tours, covering an entire exhibition or individual sections are available. The Zeiss workshop of 1866 illustrates microscope making in mid-19th century and demonstrates antique machines.*

# THE BLACK CONTAX II IS NOT A MYTH

*Dr. Stefan Baumgartner, Basel, Switzerland*

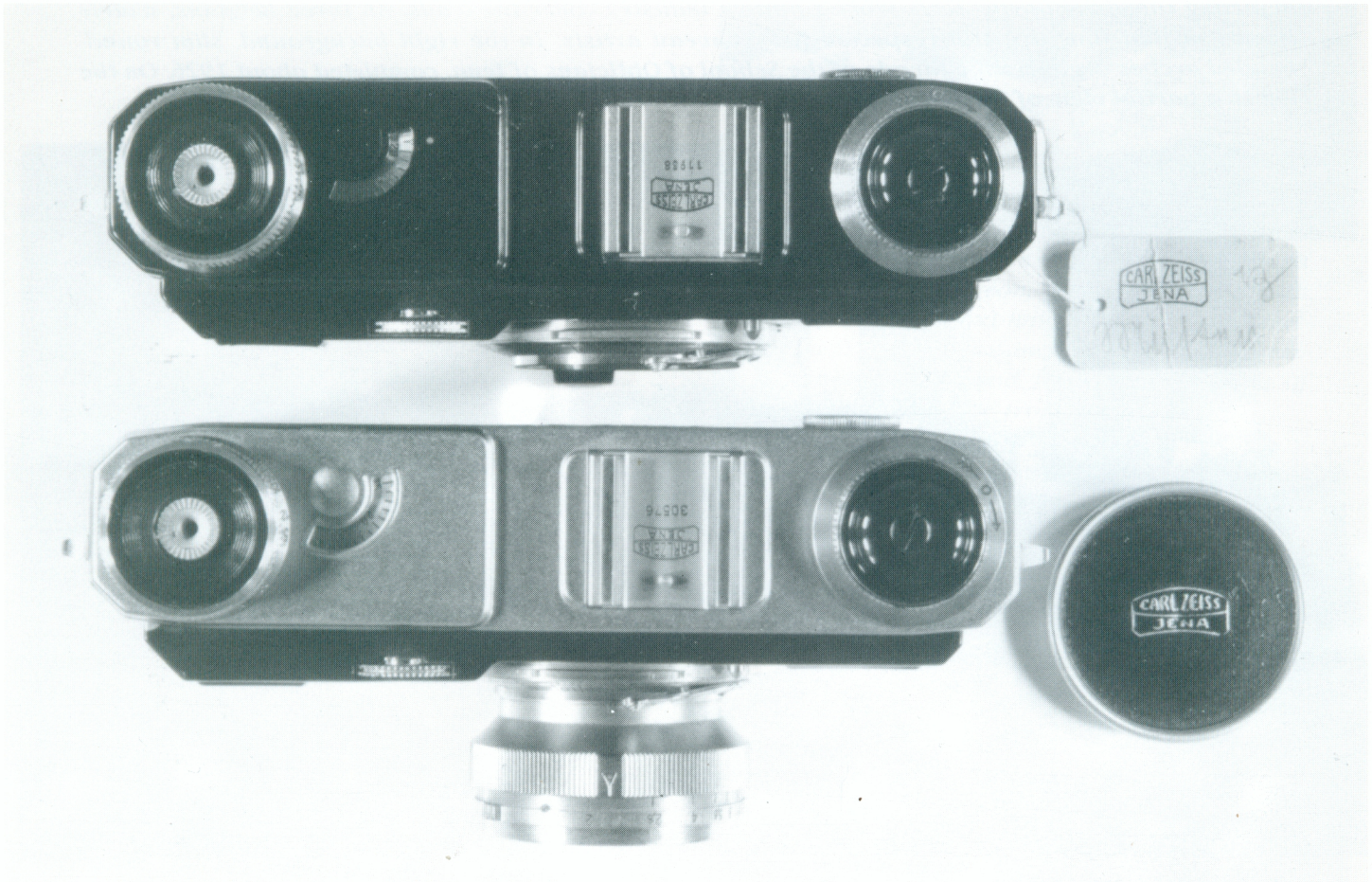
It has long been rumored that, apart from the few Contax cameras made in ivory, Carl Zeiss Jena also released a very small number of black Contax II cameras after World War II. These cameras were said to have been constructed from spare parts, and were presumably used to test the look of a black Contax. Some sources even claim that the Soviet Union's Secret Service, acting in what was then the German Democratic Republic, gave the order to produce such cameras. Are these cameras real or mythical?

The truth is that such cameras do exist. They exist in at least two versions. One version looks like a normal Contax II with the exception that its front is black. It lacks the "Contax" logo on its front plate. In contrast, the other camera has almost every part painted black, except for those items that would be subjected to wear in use: winding knobs, etc.

These two cameras belong to the small number of exotic units bearing the famous "Carl Zeiss Jena" logo in the flash-shoe. The numbers of the two cameras (11938 and 30576) may indicate that the all-black Contax was made earlier and probably independently from the half-black one.

Of particular interest is the fact that the numbering of the half-black Contax (30576) is within a batch of numbers of "Carl Zeiss Jena" KIEV cameras that the author has owned or still owns (30574, 30575, 30578, and 30584). This further supports the notion that the half-black Contax was probably made independently from the all-black one. It also demonstrates that the first KIEV cameras were made within the series of "Carl Zeiss Jena" Contax cameras, possibly to test the appearance of those cameras as well.

What else distinguishes these two cameras from




*Two versions of the black Contax. #30576, the half-black version (bottom) carries rigid f2 Sonnar with no engravings around lens. #11938, all-black version, has "Muster" ("Sample") tag attached.*

the normal Contax? 1) The half-black one lacks the "Contax" logo. No engraving was done on this camera at all. The inner side of the front plate does not show any traces of a previous engraving. 2) Both cameras have additional "Carl Zeiss Jena" logos on the back or inside of the camera. 3) In the case of the all-black Contax, the back is covered with two leather pieces, as if there had been a shortage of leather pieces. This supports the speculation that this camera was used to test the black look of a Contax II, rather than the story of the Soviet Union's Secret Service. More support for this notion is the little tag with "Muster" ("Specimen") hand-written in old German script. Thus there are several indications that the all-black Contax was produced as a sample to be presented to the management of Carl Zeiss. In contrast, the purpose of the half-black

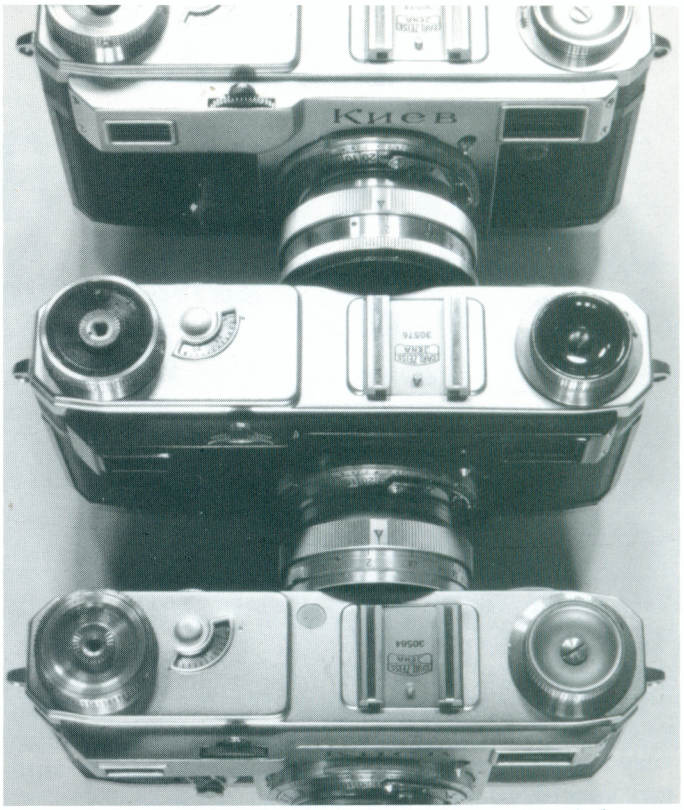

*Rigid 50mm f2 Sonnar from half-black Contax.*

Contax remains obscure. It is still consistent with the story about the Secret Service.

In contrast to the all-black Contax, the half-black one was acquired with a standard lens. It is therefore uncertain whether the all-black Contax was originally equipped with a lens, or whether it was accidentally removed during the almost fifty years between its manufacture and its acquisition by the author. Of particular interest is the fact that the lens on the half-black Contax belongs to the series of rare rigid 50mm f2 Sonnars. However, its front ring does not contain any engraving. In addition, a black-painted lens cover was added to the camera to fit into the general black layout. This feature is not found on normal Contax counterparts.

A third black Contax II has been reported to the author. However, it is not clear at present whether this camera is identical to one of the two cameras shown here or whether it contains further variations. There is no report so far of a black Contax III.

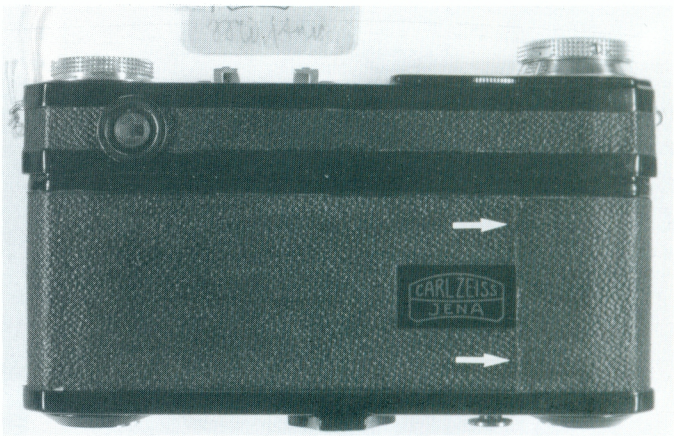
Of course, there is always the possibility that the two cameras presented here are fakes. Counterfeits




*Half-black Contax between two Kievs. Serial numbers, from top to bottom: 30574, 30576, 30584.*

have been shown to exist within the series of the few examples of the ivory-colored Contax. However, the author has good reasons to assume that this is not the case here, particularly because of the many aberrations mentioned above which would not have been introduced if a normal Contax II had been converted from chrome to black. In addition, the little tag attached to the all-black Contax looks authentic and indicates that this camera was probably produced to test the appearance of the black Contax.

It is to be hoped that this article will not encourage counterfeiters to make fake black Contax cameras. And that if further cameras of this type exist, the total number of cameras produced will become clear in the near future. To this end, I would be happy to obtain more information if it exists.




*All-black Contax carries out-of-the-ordinary metal plate with Carl Zeiss Jena logo. Back is covered with two separate leather pieces (arrows). Tag reads "Muster" ("Sample") in German script.*

# A ZEISS FOLDING STEREO TELESCOPE

*Andre Surmont, Ypres, Belgium*

Zeiss folding telescopes were used by the German Army in both World Wars, primarily for artillery observation and rangefinding.

The one shown here was captured by the author's father, who served in the Engineering Corps of the Sixth Belgian Army Division. It was taken from the German Fourth Army Corps in the third battle of Flanders in September 1918 during the Liberation Offensive.

Both Zeiss and Leitz made these folding binoculars ("Scherenfernrohr", or "scissors telescopes" in German). The products of both manufacturers are very similar – a likeness probably dictated by military specifications.

According to Auerbach (F. Auerbach, "The Zeiss Works", Foyle, London, ca. 1925) Zeiss began to produce such binoculars in 1894, first as hand instruments and then in sizes ranging up to 16.5 feet in length. Among other patents, Zeiss was awarded two from the British (#5639 and #7942) on such instruments in 1894.

This particular piece is a Model 14, and is mounted on a two-section ashwood tripod. The objective lenses are 50mm in diameter; the magnification is 10x. The exit pupil is 5mm, the luminosity 22.3, and the field of view 5 degrees (87 meters at a distance of 1000 meters).

The folding design has several advantages. When both tubes are raised and parallel, the binocular can be used as a periscope to look over a wall or the edge of a trench while the observer's head remains protected. In this position, however, the stereoscopic effect is no greater than that of conventional binoculars.

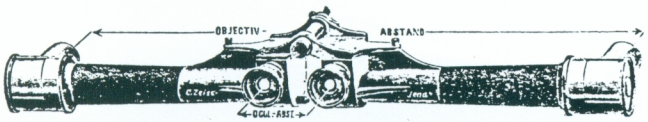
As the "vee" between the two arms increases, so does the stereo effect. When fully opened, the unit gives its maximum stereo effect. Moreover, the observer can now remain shielded behind a tree or

*The telescope in its fully closed position.*

*Unit opened into a "V". Long tubes protect the objectives from flare or rain.*


*Markings on the end of each tube. "II. 18" may indicate date of manufacture or when unit was put into service, February, 1918.*

*Kaiser Wilhelm is briefed by his officers on the Western Front, May 1918. In the background, a model 09 folding telescope.*




*Hinged stereo telescope, shown in 1899 Zeiss catalog.*

other object, with only the extreme ends of the unit exposed to enemy observation or fire.

A leveling system enables the unit to be used on sloping or uneven ground. The mount is circular, and marked around its circumference from 0 to 6400. (The system the German military used here for angular measurement is the "grad" system, in which the circle is divided into 400 units rather than 360.) A vernier adjustment allows interpolation of 1/10 of each of these 6400 increments.

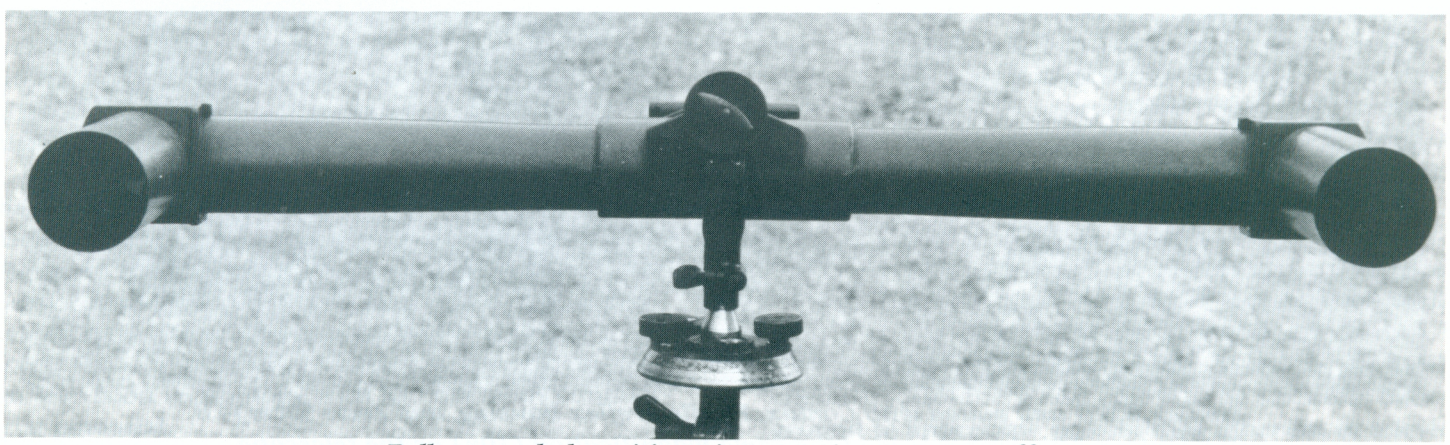
A grid appears in the right ocular with coordinates marked both horizontally and vertically. This grid can be blocked out of the field when it detracts from the stereo effect.

Designs like this were used up to and through World War II, though later models differed in construction detail and were calibrated in the 360 degree system.

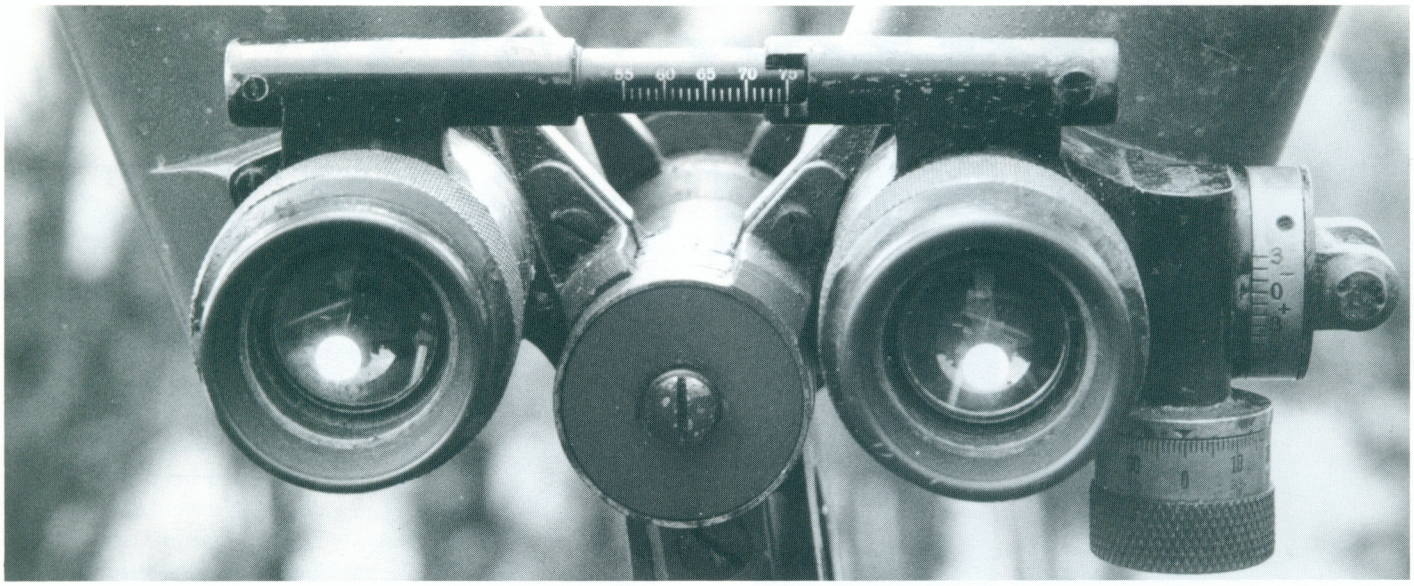
## BACKGROUND READING

Contax-Geschichte, Teil 1, Hans-Juergen Kuc.
Westelijk Front in Beweging.
Historische Kameras, Kleffe and Langner.

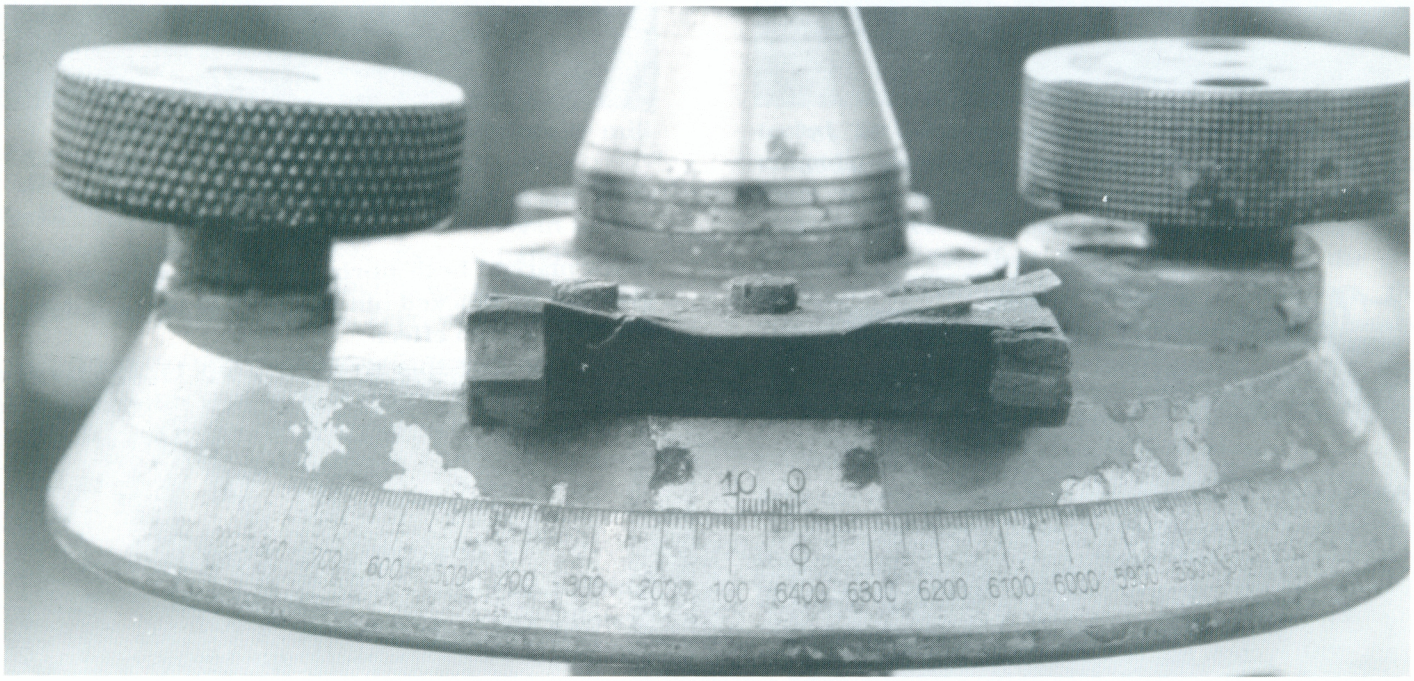
This article was translated from the Dutch by Herman Vanderplaetse. The editors thank Charles Barringer and Nick Grossman for their advice on historical and technical matters.



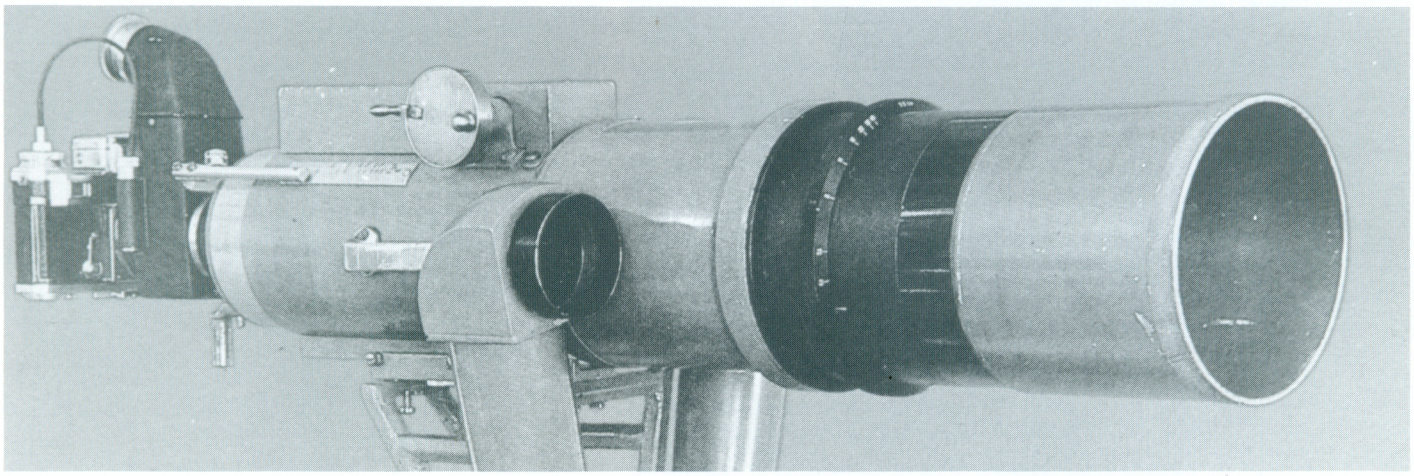
*Fully extended position gives maximum stereo effect.*



*User's eye view. Horizontal scale shows separation of tubes. Controls at right are for leveling.*




*Base on which unit revolves carries scale of 0-6400. Rotation can be finely adjusted with vernier knobs.*



*Similar WWII unit mated with Contax, Panflex reflex housing, and Zeiss 50cm f4.8 Triplet lens. This lens provided the same magnification (10x) as the telescope.*

# ZEISS IKON AND TELEVISION: FERNSEH AG

*Michael Buckland, Berkeley, California*

The name "Zeiss" is associated with optics. Less well-known was Zeiss Ikon's active involvement for ten years, from 1929 to 1939, in the formative stages of television.

On June 21, 1929, a new television company called Fernseh AG appeared in Berlin, founded jointly by four firms: Robert Bosch AG, Stuttgart; Loewe Radio GmbH, Berlin; Baird Television Ltd. London; and Zeiss Ikon AG, Dresden. Pioneer John Logie Baird of British Television frustrated by BBC's lack of interest and support gravitated to the positive and supportive interest shown by the German Reichspost.

Why was Zeiss Ikon involved? A fusion of four firms in 1926, Zeiss Ikon AG under the leadership of Emanuel Goldberg was, in effect, the photographic division of the Zeiss conglomerate. Most, but not all, of its shares were owned by Carl Zeiss Jena.

Internationally famous for its cameras and movie projectors, but always having other non-photographic products, notably auto accessories, security locks, even streetlight reflectors, Zeiss Ikon always looked toward new ideas.

In part, Zeiss Ikon's venture into television seems to have been a preventative move. Zeiss Ikon already had become a world leader in movie cameras, especially with the magnificent movie theater projectors built by the Ernemann company, one of the four firms of the "fusion", and the compact, spring-driven Kinamo cameras designed by Emanuel Goldberg at ICA, another of the four firms. Indeed, outside the USA, Zeiss Ikon had a near monopoly of large movie theater projectors throughout Europe.

But Zeiss Ikon found themselves seriously hindered in the transition to sound movies because they lacked access to a crucial patent. Goldberg's son, Herbert, has suggested that Goldberg believed an early collaborative initiative in television technology would have placed German industry in general, and Zeiss Ikon in particular, in a good strategic position in television technology with its enormous commercial potential.

Zeiss Ikon, however, was unavoidably concerned with electronics anyway because of the photoelectric cells needed for sound cinematography and for camera exposure meters. A significant problem with the early photoelectric cells was their need for more effective sensitivity.

Overcoming this limitation as well as improving the cells demanded great ingenuity. One may speculate that Goldberg's role, enthusiasm, and highly inventive mind brought decisive moves to extend Zeiss Ikon's existing involvement with imaging and with electronics into electronic imaging.

In addition to his expertise in optics, photography, and graphics, Goldberg was an acknowledged master of printing techniques. He authored significant technical publications on engraving and color printing before Zeiss recruited him from a professorship of reprographics at Leipzig in 1917. Goldberg had been already captivated by electronics, and continued his research and inventing despite his administrative responsibilities as head of Zeiss Ikon. In his home workshop, he experimented with new radio techniques, including the superheterodyne.

He received a television-related patent: US Patent 1,973,203 for A METHOD OF MAKING NIPKOW DISKS OR PLATES FOR TELEVISION. Television systems, then as now, were based on copying and reproducing images by examining and reproducing the lightness of one small spot of the image at a time. In practice this was made by scanning the image in a series of horizontal rows, one after the other. Done fast enough, and with enough rows, an image appeared and the dot and the rows ceased being noticeable.

Early television technology was partly mechanical and achieved scanning by using a rotating disk (Nipkow disk) with small holes, so that one at a time, they defined the small dot to be scanned or projected. Goldberg's patent was for mounting small lenses on the disk to gather more light for the photocell than mere holes could transmit. See Figure 1.

With his PH.D. summa cum laude in physical chemistry, Goldberg also enjoyed the scientific background to appreciate possibilities inherent in television. Might Goldberg have foreseen the electronics

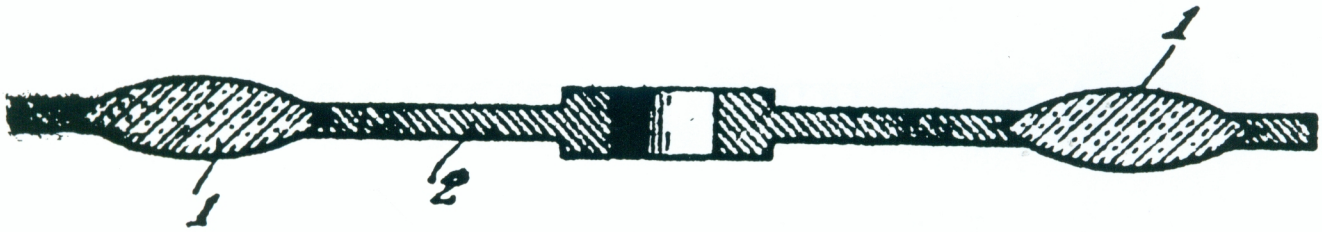



*Figure 1. Emanuel Goldberg's patent for a Nipkow disk lens: US Patent 1,973,203 comprised an artificial resin body (2), having properly working ground lenses (1) pressed directly into it during the molding.*

imaging industry becoming a rival or eclipse of photography? Had he wished to reposition Zeiss Ikon in order to participate and to profit from such a development? Such views might not have pleased some Zeiss managers, but might fully explain Goldberg's enthusiasm for Zeiss Ikon's participation in Fernseh AG.

The initial board of directors of Fernseh AG included: Emanuel Goldberg, Oliver George Hutchinson (for Baird), David Ludwig Loewe, and Erich Carl Rassbach (for Bosch). Eberhard Falkenstein, who did legal work for Zeiss Ikon, was also involved. Zeiss Ikon's Goerz factory in Zehlendorf, Berlin, became the company's headquarters.

Two large strong firms with substantial financial resources (Bosch and Zeiss Ikon) linked with two small firms having specialized technological knowledge (Baird and Loewe) proved an uneven combination. In 1932, Erich Rassbach of Bosch expressed his dissatisfaction with Fernseh AG in a letter to August Kotthaus at Carl Zeiss Jena, perhaps hoping to bring indirect influence on Zeiss Ikon.

He complained that no long-term work plan was ever made. He found Goldberg's technical talk difficult to understand and he thought that Goldberg's attitude to Fernseh AG was possessive (habhaft). He suggested to Kotthaus that either Bosch or Zeiss Ikon should buy out the other investors.

Meanwhile, Fernseh AG made considerable technical advances, acquiring many patents, and some commercial progress. In particular, as was appropriate for a firm affiliated with Zeiss Ikon, they developed amazing "intermediate" systems that combined film and television technology both for sending and for receiving.

Early television cameras could not work outdoors, let alone be used to cover mobile news. Figure 2 shows the Fernseh AG solution: An ordinary movie camera mounted on a truck took conventional photographic films and sound recordings of whatever was to be transmitted.

The exposed, but unprocessed film, went immediately down a light-tight tube into a development tank (E), into a fixing tank (F), through a washing tank (W), and a preliminary drying process (Vortrocknung). Then it passed an "indoor" television camera that copied the image (Bildabtastung) and a sensor that copied the sound track (Tonabtastung). The film was then given additional drying (Nachtrocknung) and wound onto a take-up spool. Electronic equipment transmitted the image and sound signals within sixty seconds of the filming.

In another version, the movie camera used a continuous loop of film that was exposed, processed, copied, cleaned, resensitized, and reused. As of 1937 the time interval for the film loop cycle from movie camera exposure through development, fixing, television camera copying, clearing, resensitizing, and reexposure was down to 90 seconds. All of this was superceded as electronic technology improved, and mechanical components such as Nipkow disks and rotating offset mirrors, were replaced by fully electronic devices.

Combining film and electronic technologies derived validity because storing television images was yet to be invented. Fernseh AG publicity pointed out that phonographs and radio coexisted. Undated lecture notes of Goldberg contain observations that the inability to store electronic images assured the future of film. But when he saw a magnetic tape-recorder in the late 1940s, he correctly predicted that video recordings would be commonplace within forty years and that electronic imaging would displace photographic film.

In an effort to educate and impress the Fernseh AG shareholders, Goldberg is said to have addressed a shareholders' meeting using closed-circuit television. But Goldberg was kidnapped in April 1933 and forced to leave Germany, thereby ending his role in Fernseh AG. At Zeiss Ikon, television was associated with movie equipment at the Ernemann works, while liaison with Fernseh AG was through

Hermann Joachim, an authority on movie projectors.

Zeiss Ikon managers decided that television was not central to Zeiss Ikon's interests. They noted that Fernseh AG not only lost money, but needed substantial infusion capital. They preferred that Zeiss Ikon supply "specialized parts" without having ownership responsibilities. In 1939, Zeiss Ikon sold its interest in Fernseh AG to Robert Bosch AG.

Bosch acquired complete ownership of Fernseh AG that continued after World War II as Fernseh GmbH, and after 1972 as Fernsehanlagen GmbH. In 1986, in a partnership between Bosch and Philips, it became part of Broadcasting Television Systems GmbH, wholely owned by Philips since 1993.

Conceivably, had Goldberg's career continued in Germany, Zeiss Ikon, unlike other photographic firms, might have developed a strong and early position in electronic imaging.

Further reading:


- FERNSEH, July 1939, pp. 109-122, published by Fernseh AG. This issue of their technical journal contained an illustrated review of the firm's activities and products during its first ten years, precisely the period of Zeiss Ikon's involvement.

- Guenther, Hanns. DAS GROSSE FERNSEHBUCH. Stuttgart: Franckh, 1938. Descriptions of Fernseh AG's "intermediate" tech nology combining film and television technologies can be found in English and German books of the late 1930s on television technology of the period, notably Guenther.

- Archival material on Zeiss Ikon's involvement in Fernseh AG survives in Jena (Carl Zeiss Archives, file 22413) and in Dresden (State Archives, Ernemann and Zeiss Ikon papers, file 154).

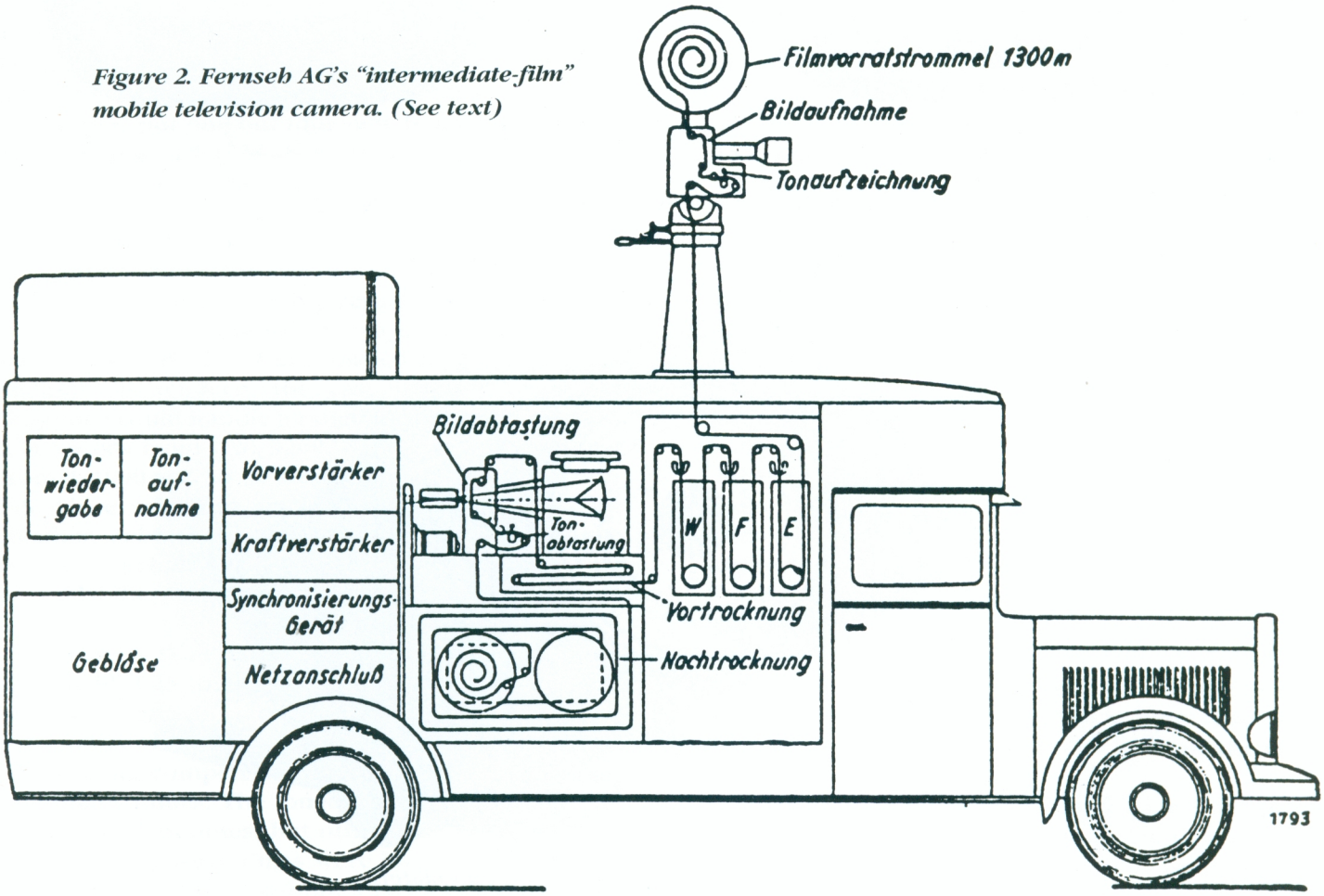


Herbert Goldberg, Frau Edith Hellmuth, and the Lancour travel fund of Beta Phi Mu are gratefully acknowledged for their help and assistance.

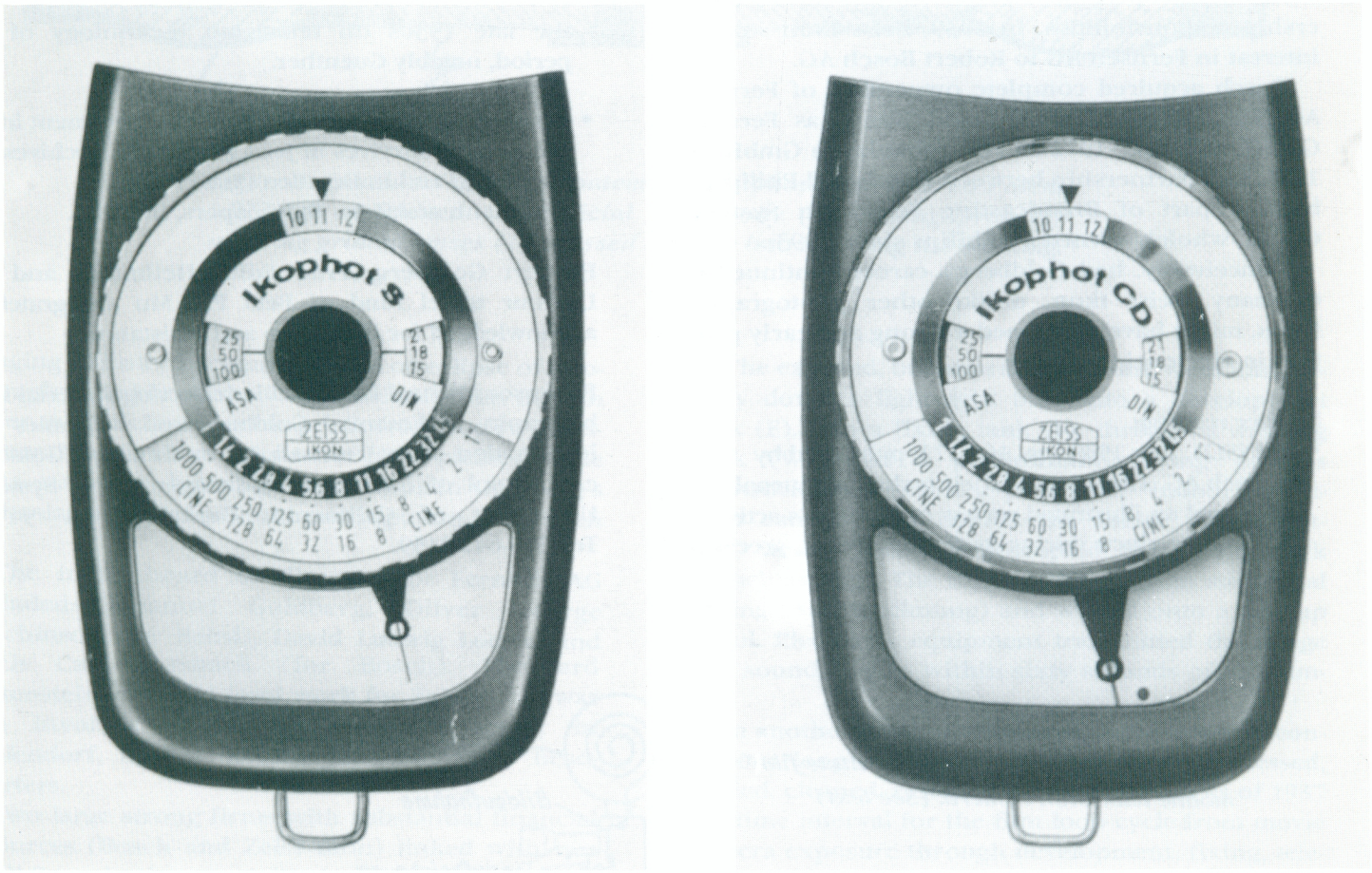


Professor Michael Buckland is collecting material for a biography of Emanuel Goldberg and welcomes any information about Fernseh AG or Emanuel Goldberg c/o School of Information Management & Systems, University of California, Berkeley, CA 94720. Tel. 510-642-3159.

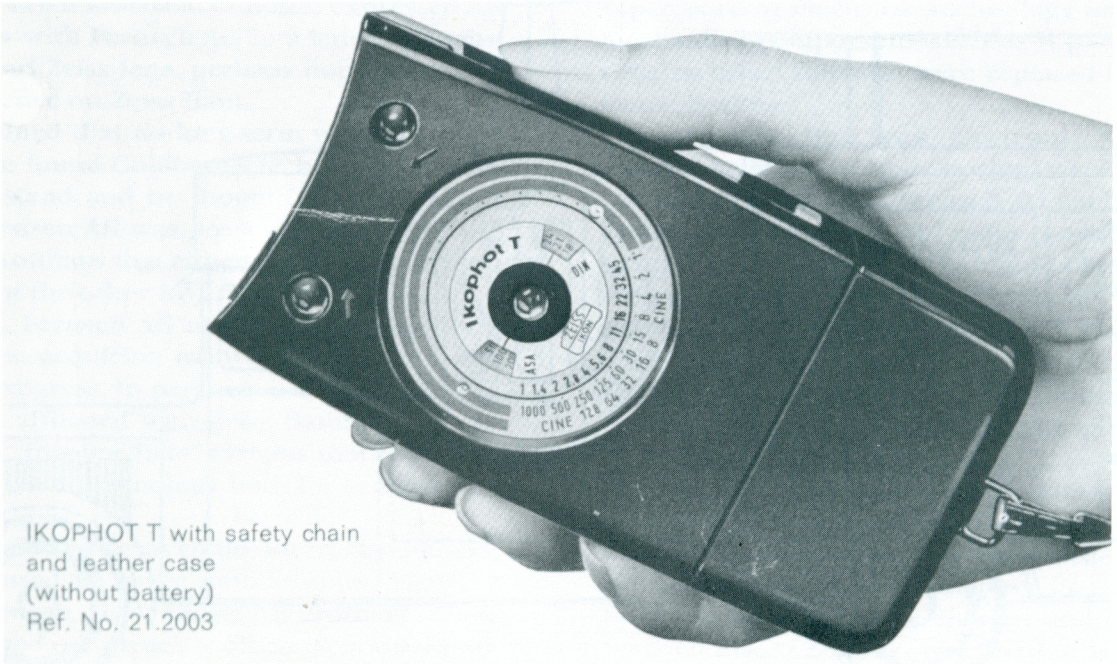

*Figure 2. Fernseh AG's "intermediate-film" mobile television camera. (See text)*



*Tiny Voigtlaender Slip-On Meter.*




*Ikophot S (left) was selenium; Ikophot CD used CdS Cell.*




*Unusual Ikophot T was top-of-the-line CdS meter.*

# ZEISS IKON'S LAST HAND-HELD METERS

*Larry Gubas, Randolph, New Jersey*

Zeiss Ikon was a leader in light meter technology before World War II. After the war, they upgraded their hand-held selenium cell Ikophot meter into a more attractive package. But other than revising the meter for differing film and light values, they made no further changes until 1966.

The firm's commitment to selenium meters was broad and deep. The Contax IIIa, the Contessa, the Contaflex II and IV all carried built-in selenium meters.

But the times were changing. Along had come CdS (cadmium sulphide) technology with its exceptional accuracy and sensitivity. It was a technology markedly superior to selenium. And the ability of the Japanese to adapt their models to this new technology put that of the Germans to shame. (The Nikon Photomic built-in coupled meter using CdS technology was introduced in 1962, for example.)

Zeiss had invested much in selenium technology. And they were slow to move. But something had to be done. Improved hand-held meters seemed to offer an opportunity. So in 1966, Zeiss suddenly announced not one but four new hand-held meters. The pecking order of these meters can readily be seen in their features and prices.

The smallest was the selenium Voigtlaender Slip-on Meter. It fit the accessory shoe of almost any camera, and was about the size of a flattened walnut, usually with a light gray plastic case. It sold for $14.95.

The Zeiss Ikon Ikophot S was next in line. It too used a selenium cell and required no batteries. The styling was modern, the case black plastic. The Ikophot S could handle a range of 14 light values and ASA speeds from 6 to 3200. Exposure times ranged from 1/1000 sec. to 30 min., apertures from f1.0 to f45. Since selenium cells operated poorly in cold weather, Zeiss Ikon installed a special temperature control mechanism into this meter to ensure its dependability. Price of the Ikophot S, with case, was $24.95.

The Zeiss Ikon Ikophot CD was the firm's first hand-held CdS meter. It was state-of-the-art and offered high measuring accuracy even under extreme conditions. With its jeweled bearings and temperature-compensated CdS cell, it offered a range of 20 light values. The longest exposure time on its scale was 60 minutes, but otherwise its indicated f-stops and exposure times were identical to those of the Ikophot S. The Ikophot CD included two cell masks: one to block out light completely and the other to allow incident light readings. It was powered by the typical PX battery of the day. With case, it sold for $34.95.

Zeiss could not stop at this point. They engineered something so special that few would want or dare to copy it. Their creation was dubbed the Zeiss Ikon Ikophot T, and was billed as the world's first electronic exposure meter.

For its day, the Ikophot T was a breakthrough in accuracy, speed, and sensitivity. It was a fully transistorized CdS meter with a bridge circuit. Missing were the usual moving coil and needle.

Instead, the Ikophot T zeroed in on the correct exposure via three tiny signal lights. A rotating dial controlled two lights atop the meter. They indicated which way the dial should be turned. When the third light, located in the center of the dial, went on, you had reached the correct exposure.

The Ikophot T's little lights made it easy to use even in the very low light in which the meter could operate. (Its time scale ran from 1/1000 sec. to two hours, its aperture scale from f1.0 to f45.) It covered ASA film speeds from 6 to 3200. No zero setting was necessary. Powered by a 9-volt battery, the meter also included a built-in light blocker and an incident light diffuser.

Although the Ikophot T was announced in late 1966, it was not put on sale until May 1967, at a price of $64.

By then, built-in CdS meters had made great inroads into the market. Hand-held meters were still useful to view-camera users, for example, but the built-in meter was rapidly taking over.

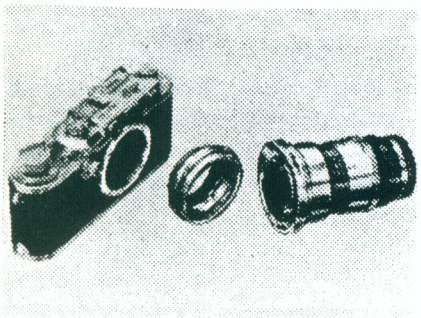
Here, Zeiss Ikon lagged the field. True, the Contaflex Super BC, first marketed in 1966, boasted a built-in CdS meter. But the flagship Contarex line had to wait for its built-in CdS meter until 1967 when the Contarex Super was introduced. The Japanese had a mighty head start.

The Ikophot T survived until the end of the Zeiss Ikon line. I was fortunate to obtain a salesman's sample on which the opaque black body had been replaced with a clear plastic shell to show the unit's innards.

Zeiss promoted their hand-held meters of 1966 as part of "The Golden Program." They were truly superior units, but as with so many Zeiss Ikon products, were an example of "too much, too late."

# LICHTSTRAHLEN
## LIGHT RAYS: NOTES OF INTEREST ABOUT ZEISS AND ITS HISTORY

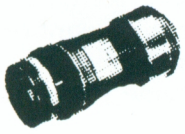
**STEWARTRY LEICA-CONTAX LENS COUPLER**



A precision engineered device for adapting long-focus Contax lenses to Leica cameras, coupling them accurately to Leica rangefinder at all distances. Camera and lens are in no way altered.

**$18.75**

**LENSES FOR LEICA AND CONTAX**



TRINOL for LEICA — 105mm., f3.5, ideal portrait lens mounted by Stewartry. Couples to Leica rangefinder and calibrated in feet.

**$145.00**

DEFINEX for CONTAX —135mm., f3.5, an extremely sharp cutting lens ground by Ross and mounted by Stewartry. Couples to rangefinder; coated.

**$165.00**

## ROSS/STEWARTRY CONNECTION

In connection with the Ross 3 1/2" Definex lens shown on p. 19 of the Spring 1995 issue, members may find this section of an ad from the 11th edition of the Leica Manual (1947) interesting.

Stewartry was a Scottish firm which had an active business in postwar Britain especially when German lenses were difficult and extremely expensive to obtain. The firm would mount lenses of British manufacture in Leica and Contax mounts. You will note that the lens in the ad is a 135mm Ross, but the 9cm Ross does exist. I have one in a Leica screw mount. The most interesting Stewartry item is the Leica-Contax Lens Coupler. I have one that I use to this day with a 180mm Tessar (which I have had coated) on my Leica M6.

*Harry B. Soletsky*

## MORE ZEISS REPAIR SHOPS

### PEOPLES REPUBLIC OF CHINA

DAIHUA CAMERA SERVICE. North 1-7-1-402# Jianxi, Luoyang, Henan 471003. Phone: 0086-379-4944414. Contact: Zou Daihua. Repairs cameras and lenses.

T.P.E.S. North 6-3-3-1-102#, Jianxi, Luoyang, Henan 471003. Phone: 0086-379-4911485. Contact: Zhang Guizhi. Repairs cameras and lenses.

### ENGLAND

EUROPTIC. 30 Pettman Close, Herne Bay, Kent, CT6 5TJ. Owner: Terry Vacani. Phone and fax: 01227 364356. Repairs binoculars and telescopes, all WWII and older Zeiss. Does lens coating and collimating. No Cameras.

### UNITED STATES

CB'S CAMERA REPAIR. 15 Chapin Avenue, Rocky Hill, CT 06067. Phone: (203) 529-4984. Contact: Bruce Whitcomb. Repairs Contax rangefinder cameras, replaces shutter tapes. Repairs leaf shutters and leaf shutter cameras, Contarex, most mechanical cameras.

GARY CAMERA REPAIR. 54 Lewiston Street, Staten Island, NY 10314. Phone: (718) 983-9472. Contact: Gary. Repairs all pre- and postwar Contax, Nikon rangefinder, older German equipment.

F. C. MEICHSNER & CO. 182 Lincoln St., Boston, MA 02111. Phone: (617) 426-7092. Owner: F.C. Meichsner. Repairs binoculars.

SWISS CAMERA REPAIR. 38 West 32 St., New York, NY 10001. Phone: (212) 594-6340. Contact: Joe. Repairs cameras, lenses.

VP CAMERA SERVICE. 507 Century Lane #2, Holland, MI 49423-4288. Phone: (616) 394-9821. Owner: David Vickery. Repairs cameras and lenses, buys equipment for parts or restoration.

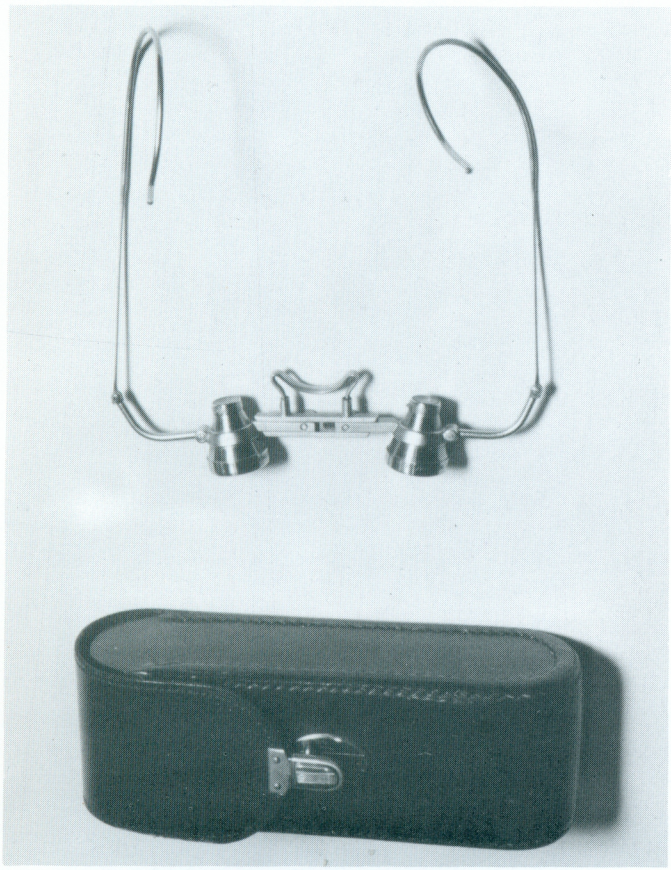
CARL ZEISS INC. CENTRAL REPAIR. One Zeiss Drive, Thornwood, NY 10594. Phone: (914) 747-1800. Fax: (914) 681-7321. Repairs laboratory and operating microscopes.

# NEW VOIGTLAENDER CLUB

From British member Terence Sheehy comes welcome news: at long last, there's a club devoted to Voigtlaender, from its earliest days through its merger with Zeiss Ikon in the mid-1960's right up to the present day. Name of the organization is The Voigtlaender Verein ("Club", in German.)

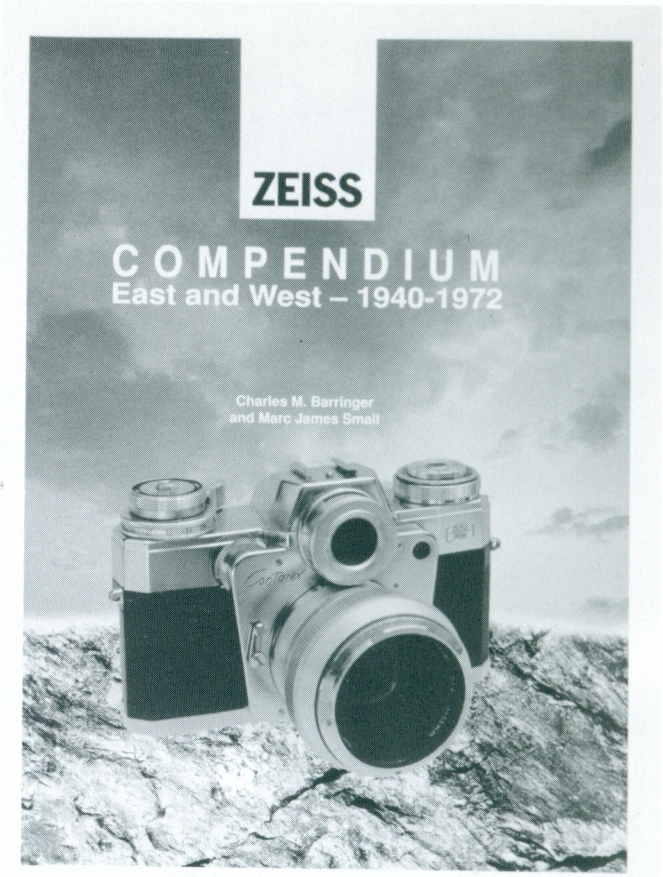
Membership includes a quarterly English-language newsletter ("Voigtlaender Matters") in which members can exchange information, news, sales and wants; access to a wealth of archival material (including much which was acquired by Rollei when they took over Voigtlaender), and the latest edition of Dr. Neil Wright's 40-page Voigtlaender Checklist–the authoritative work.

The one-time joining fee (includes a copy of the Checklist) is UK £10, Europe £11, overseas £12. Membership fee for one full year (includes 4 issues of the newsletter) is £8 UK, £9 Europe, £10 overseas. Send checks on a British bank or other payment to Alan C. Borthwick, 37 Queen's Road, Scone, Perth, PH2 6QY Scotland.



# TINY BINOC

In the collection of Jack Kelly is this unusual little pair of binocular spectacles from Carl Zeiss Jena. Unlike conventional binoculars, they are used for close work rather than for viewing distant objects. Working distance is approximately ten inches. Space between the two eyepieces can be adjusted and locked into place with setscrews.




# NEW BOOK ON ZEISS

*ZEISS COMPENDIUM: East and West – 1940 - 1972, by Charles M. Barringer and Marc James Small. 168 pages, illustrated, $49.95. Hove Collectors Books, Hove, England.*

Two officers of the Society have produced a truly unique book: the only one to provide a broad overview of Zeiss and its cameras since the end of World War II. While other books may delve more deeply into Zeiss history or Zeiss products, this volume's greatest strength is the way in which it blends history, technology and commerce into a most readable whole.

Zeiss Compendium covers the postwar division between Zeiss East and Zeiss West, the rebirth of camera manufacturing on both sides of the Iron Curtain, the Russian derivatives of Zeiss products, the struggle of the West German firm to maintain its markets in the face of powerful Japanese competition, its union with Voigtlaender in the mid-1960s, and its exit from the world of camera production in 1972.

Some 275 photographs illustrate the breadth of the Zeiss product line, including many little-known variants from both East and West.

Though the book is marred by several misplaced captions and editorial slips, there is, to date, no book like it in any language. Zeiss Compendium provides a graphic and multifaceted answer to the question, "What makes you so interested in Zeiss?"

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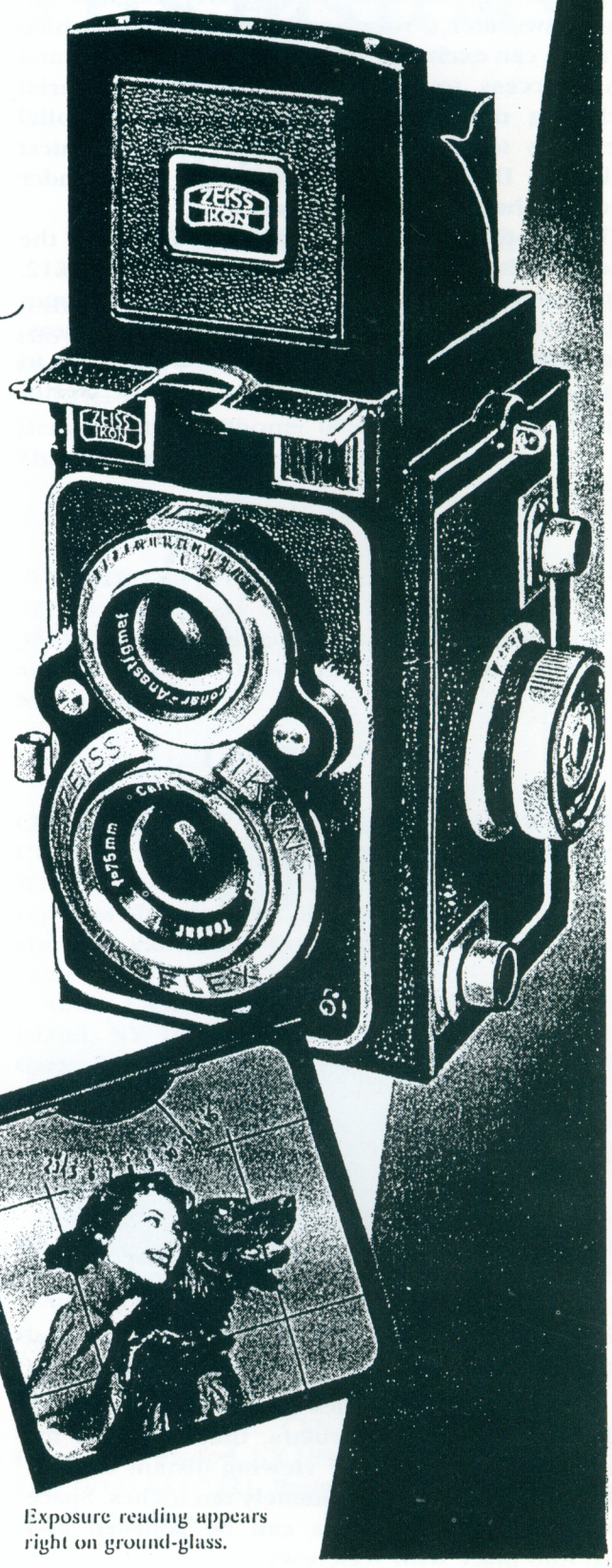
*All controls are visible from above, right on the groundglass, brilliant to the very edges, you see your subject and the exposure reading of the built-in meter, the needle showing every change in lighting. A magnifying window above the lens mount shows shutter settings and F stops. The scale on the focusing knob gives depth of field at any aperture. It takes but a glance to see all this, and when you snap the picture, you know you've caught it at its very best–for you have taken it through the superb, fully color-corrected ZEISS TESSAR 75/f3.5 lens.*




Exposure reading appears right on ground-glass.

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