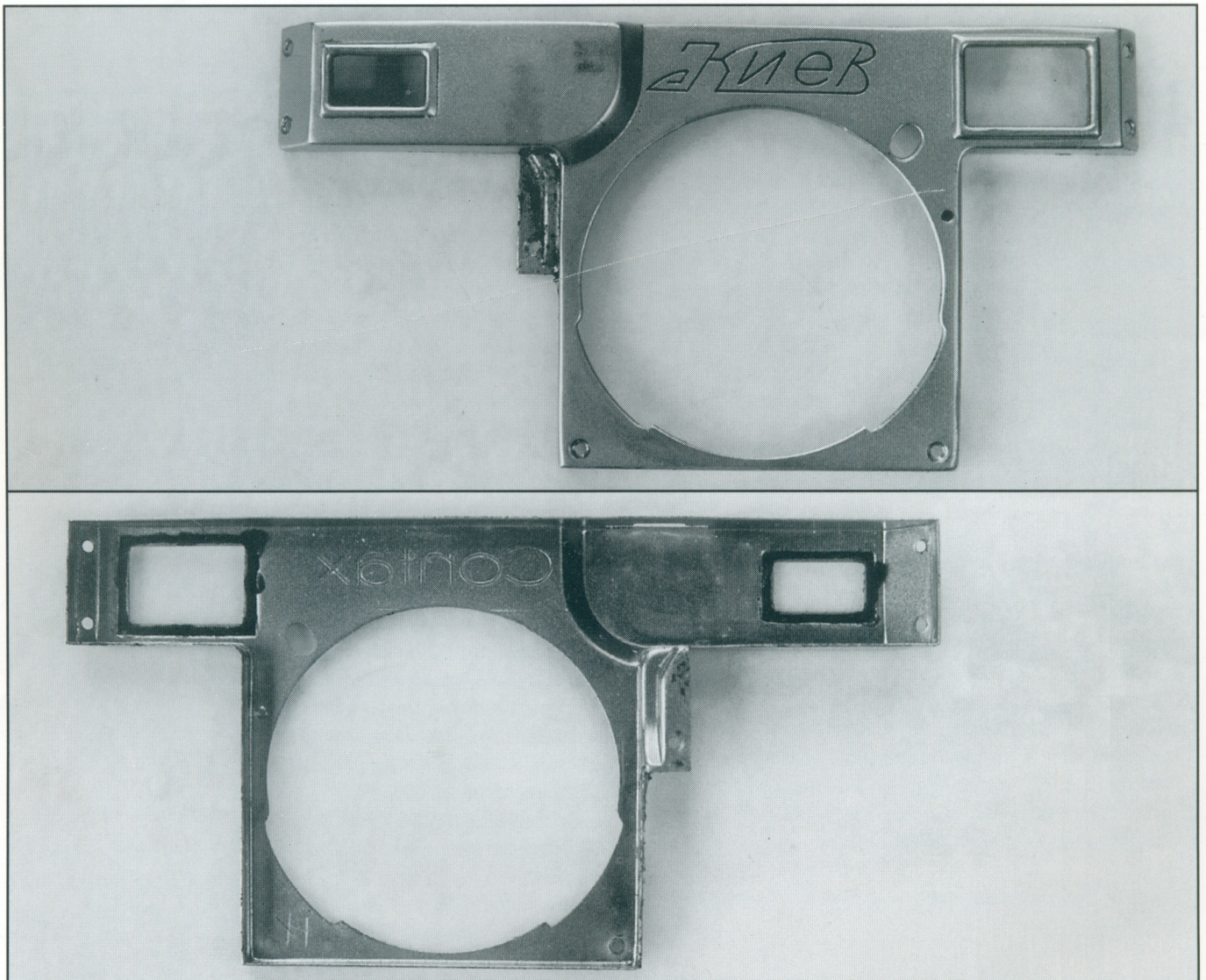


# ZEISS HISTORICA

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*(A listing of variations of the Jena Contaxes, compiled by Kurt Jüttner, is supplied as an insert to this issue)*

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

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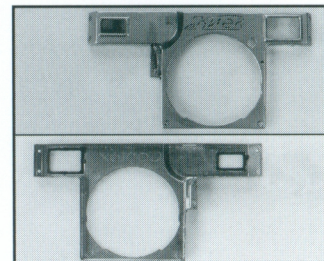
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**Front Cover:** Front (top) and back views of the front body plate of the Kiev shown on page 17 of this issue and described by Larry Gubas in his article on the migration to Jena and Kiev. Clearly the plate was made in Dresden with the Contax trademark and marked, as a Kiev.

*(Photo: Peter Hennig)*



**Back Cover:** An advertisement from the April 1939 issue of *Miniature Camera World*. It shows details of the sliding-wedge rangefinder "only to be found on the Contax," and points out proudly that the rangefinder and viewfinder are combined within one eye-piece.

*(From the collection of John Baca, Mathiston, Mississippi.)*





## President's Letter

**Dear Fellow Zeiss Enthusiast:** After some fifteen years since my last term as your president, I accepted the offer of the mantle of leadership from Charles Barringer who has held the position of President for nearly ten years. He is still anxious to be a contributor to the Society but he agrees that my recent retirement will give me the time to make a positive and active contribution at this time.

It will be my goal to widen membership, to create an active web site and to bring new points of view into our publications. To this end I invite any and all communications to my home address, telephone or e-mail address. Fortunately, I have already been able to open communications with some new members in Europe who bring a closer knowledge of the various Zeiss firms and their products. With the 75th anniversary of Zeiss Ikon scheduled to happen this year, a lot of Zeiss oriented events are about to happen or have happened recently.

There are very interesting new Zeiss publications about discoveries in Dresden, Jena and other Zeiss locations, but not in English. Recent information about the Jena Contax, a clearer picture of the Kiev and the Contax SLR cameras are being presented in this issue. Contacts with long retired and important members of the firm's staff have been opened. This is important because most of them are in their eighties. Unique items from Russia and Eastern Europe are coming into collections there and raise new questions as well as answers. As an example, see the unique pictures of a hybrid Contax/Kiev in this issue. Ebay continues to bring the common and unknown into the world of individual commerce.

It is my goal to have *Zeiss Historica* be the conduit for such information reaching the audience of our publications and, hopefully, reach a larger audience. It is clear that the totality of the history of the Zeiss companies is

not ready to be written. There is much more to find out. Much of the past has been obscured and there is much speculation—some of it quite idle speculation—that needs to be explored and developed. Please express yourselves as to your interests and what you can offer us in what you wish to know. When I wrote about the Super Ikontas more than 15 years ago, it was the first time that it had been done and now other people are repeating that information. That is good, but we need to broaden the brush of that information. Hans-Jürgen Kuc opened the door to Zeiss research on the Contax and we should all thank him for it. However, there is more to find and one or two interested people are not enough to write for our publication.

I would like to express our thanks to our Past President for his long and diligent service and to Maurice Zubatkin who has done almost all of the administrative and financial work in memory. I still sorely miss the guidance and knowledge of Bill Stone over so many years. However, as an interim editor, I must acknowledge the improvement that we have seen in the Journal since John Scott has stepped into that role.

Recently, we have been fortunate to find some excellent authors for our publications, but it is important to publicize what we are doing. I am working on an annual meeting whose date will depend on our speaker. I hope that I will have already defined this when this is printed. If not, I hope to have it to you very soon. I will do my best to address these and other matters, which you bring to my attention. I thank you for your attention and await your perspective.





# Prototype lenses for the Contax, Contaflex, and Contarex

Joachim Kämmerer

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*The following is a summary of a presentation made by the late Dr Joachim Kämmerer at the second Zeiss Historica Society European meeting in 1989. He was at that time the head of the Photographic Lens design component of Carl Zeiss in Oberkochen.*

*In the meeting Kämmerer shared some of the historic lens and camera-design concepts that never came to market in the post-war era. He was a most generous host for that meeting and helped us to a weekend of accelerated learning of things Zeiss. Kämmerer died of a heart attack in the early 1990s.*

*I have added a few comments in the footnotes at the end. —LG*

---

Today I would like to show you some of the actual prototype lenses for the Zeiss Ikon Contax, Contaflex and Contarex cameras. For various reasons none of these lenses ever came to the market. For most of these prototypes, I still have in my department technical documentation going back to the beginning of the 1950s. There are detailed drawings, test reports and other technical details; however, I have no information on management or marketing decisions. Because I did not enter Carl Zeiss until 1967, I do not know from my own experience why these lenses were not brought to market; I can, however, make some suggestions, and you will find them in the descriptions that follow.

## Contax

First, let us look at some 50mm lenses. In 1952, Carl Zeiss tried to open the proven Sonnar design to an aperture of  $f/1.4$  from  $f/1.5$  by using newly developed high-refractive-index glasses. The image quality of the sample (marked V 1)<sup>1</sup> was not satisfactory out to the corners. The test report noted “The image

quality of the lens is not in accordance with the requirements that should be fulfilled for a new lens to be placed on the market.” The next example (V 3) was made in 1954 with the same glass types and did eliminate this imperfection. Its image quality at full aperture was even a little bit better than that of the Sonnar  $f/1.5$ . However, the decision for full-scale production had to be based on a careful comparison with other fast lenses already on the market with regard to cost and price. I think that the decision not to go forward with production was taken because the price would have been significantly higher than the market would bear.

In 1953 and 1954 the department, under Dr Hans Sauer, designed a variant of the now achievable Planar design. A  $f/2$  version of this design as a 50mm in Contax mount was tested with excellent results. A second sample of this same lens in our prototype collection was—according to the serial number—made in 1965 using lens elements from the Contarex Planar. This Planar was larger in size and a bit heavier than the Sonnar

$f/2$  50mm. But at that time Zeiss Ikon was making the decision to discontinue production of the Contax when the Contarex came to market, and so there was no need for this lens in this mount.

Back in 1951–54, we tested designs to replace the Tessar  $f/2.8$  50mm with a new Sonnar  $f/2.8$  50mm (see the diagram reproduced on page 4). This Sonnar, with five lens elements, was a really excellent lens, better than all other  $f/2.8$  50mm lenses known at that time. But I believe it was decided not to replace the popular Tessar with a more expensive lens. I also believe that it was our policy to reserve the name “Sonnar” only for truly fast lenses.

Few people know that, in 1954–5, Zeiss in Oberkochen had developed a 25mm Topogon (diagram on page 5). This Topogon was a six-element design with an improved performance, compared with the pre-war Jena Topogon, in the areas of chromatic aberration and edge illumination. The reports on the prototype commented that it was useful but at full aperture it did not reach the quality of the Biogon  $f/4.5$  21mm. In



addition, the high production cost for the thin onion-skin-shaped lens elements was reason enough to refrain from a serial production.<sup>2</sup>

### Contaflex

The lens history of the Contaflex was constrained by our continuous efforts to overcome the restrictions of the camera's basic design on the focal lengths of the lenses, and to offer alternatives to competitive cameras with true interchangeable lenses. Many of these experimental lenses have already been mentioned in the Contaflex/ Contarex book by Hans-Jürgen Kuc.<sup>3</sup> For example, the wide-angle 0.8× and 0.7× attachments for the Contaflex I were developed to reduce the 45mm focal length of the fixed f/2.8 Tessar lens. In 1954, an attachment prototype (V 13) was made, and the resulting focal length of the standard Tessar with attachment became 36.4mm. However, the image quality was considerably less than that of the Contax f/2.8 35mm Biogon and f/3.5 35mm Planar. The performance was not satisfactory in view of the pric-

ing necessary to bring it to the market. Some samples of this attachment were engraved 1.24×, which is the reciprocal value of 0.8×. We can find this erroneous term even in our technical drawings. The attachment was designed for apertures of f/5.6 or smaller. A more simple attachment (V14) was designed for apertures of f/11 maximum. Zeiss Ikon had to decide if such a small aperture would be acceptable, the image quality satisfactory and the price acceptable. Although the image quality was satisfactory, this aperture was certainly out of the question.<sup>4</sup>

In 1957 Zeiss developed an alternative to the Satz Tessar for the Contaflex III. It was an f/2 50mm Satz Planar with tele- and wide-angle attachments named Planar-Tel and Planar-Gon. These attachments were used together with the rear component of the Planar. The optical performance of these combinations was a lot better than of the Tessar set. However, I think the associated price difference was not in line with the market.

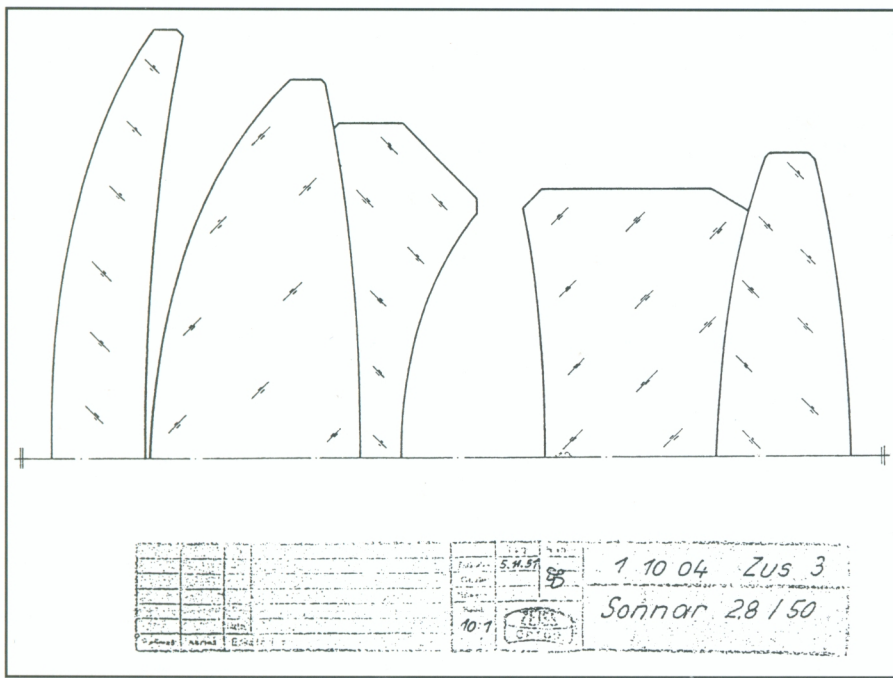
Simultaneously, Zeiss was looking

for a lower-priced alternative to the Satz Tessar and the Pro-Tessars. The outcome of this development was the Novar f/2.8 50mm, with Novar-Gon f/4 35mm and Novar-Tel f/4 85mm. But, again, the production costs of these alternatives were not very different from those of the Pro-Tessars. So, Zeiss Ikon decided to use the less expensive Pantar set developed and produced by Rodenstock, although the Novar-set was the better product.

As you might have already read in Hans-Jürgen Kuc's book, there was also a parallel development to the well-known production model lens for reproduction work named the Pro-Tessar 1:1. This lens, with the sample number of 10 44 10 V 1 and engraved "Vorsatz for Abb. 1:1" had six lens elements. The image quality was so good that it could be used fully open at an effective aperture f/4 for "the image scale 1:1." As you would expect, only one of these lenses could get into production, and this one was not selected.

The three-lens-element Pro-Tessar, however, that finally came to market





**Design for an f/2.8 50mm Sonnar**, dating from 1951. This lens, which never went into production, was designed as a possible replacement for the f/2.8 50mm Tessar. We apologise for the low quality of this illustration and the one opposite, both of which are made from imperfect photocopies.

should be used for best quality at an aperture of f/8. Furthermore, let me show you another never-produced example of a Pro-Tessar f/4 (5.6) 110 mm. This was a very large and expensive construction comprising eight lens elements. Because the cost for such a complex lens would result in a selling price of DM 600 this lens also was never produced. The f/4 115mm Pro-Tessar that finally came to the market was, no doubt, a good compromise on price and performance. The optical designers at Carl Zeiss attempted many times to extend the lens program of the Contaflex to even longer focal lengths, with one result being the Pro-Tessar f/4(5.6) 135 mm, which did not come to market probably for weight reasons.

From my point of view experiments to extend the focal-length range beyond what was actually achieved appear a little bit curious. My examples (10 43 89 V8 and V13) are telescope attachments 3.4× and 5× to be placed in front of the normal Tessar elements. Thus they gave resulting focal lengths of 170mm and 250mm with an aperture of f/6. The normal Tessar lens acts as the eyepiece of a telescope, with the attachments

forming the objective. Because of their cost, size and weight, these systems would not have had any real chance in the market. In addition, this design produces an upside-down image like those of Kepler-type astronomical telescopes.

Another example of an f/4 115mm Pro-Tessar was made in 1962 with a rectangular-shaped front to reduce size and weight. However, this was no more than an interesting cosmetic change with regard to the cost.

During 1956 and 1958, Zeiss Ikon was also attempting a partial redesign of the Contaflex III. One of these concepts involved the removal of the Compur shutter from the camera and placing it in the lenses, reflecting the design principle of the very successful Hasselblad 500 C. Four lenses incorporating a Compur shutter were developed: an f/2 50mm Planar, an f/3.5 35mm Distagon, an f/2.8 85mm Sonnar, and an f/4 135mm Sonnar. My collection of sample drawings shows an f/3.5 85mm Sonnar lens mount with built-in shutter. This device has never been built, even in prototype. All of these lens prototypes were tested with a normal Compur 00 shutter.

By the middle of the 1960s Zeiss Ikon had developed a different design called the "Contaflex W," which would have been similar to the Voigtländer Bessamatic or the Kodak Retinaflex. This projected camera was equipped with a wide-open Compur shutter, and Zeiss designed an entire range of eight lenses for it, ranging from a 21mm Distagon to a 200mm Telikar. In my sample collection I have the f/2 50mm Planar (10 ZO 57 V1) with the special Compur mount. Neither the Contaflex W, as illustrated in Kuc's book, nor the Contaflex models with the lenses having built-in shutters, ever went into mass production.

### Contarex

Preparations for the lens systems for the Contarex, which was introduced to the market in 1958, began in 1954. At that time the Contarex still went by the internal name "Contax IV." First, we find again the f/2 50mm Sonnar that I mentioned earlier in connection with the Contax. Now this lens (sample V12) was incorporated in a Contarex mount. As the technical drawing shows us, the mount is still provided with a bayonet-cap adapter. Our test report gave this lens good marks, because this Sonnar was superior to all the Tessar developments existing at that time.

The f/1.4 Planar was surely the first lens with such an aperture for SLR cameras. To make no compromise regarding image quality, the focal length of this lens was 57.1mm, longer than is common practice today. The prototypes of this Planar, as well as the first production lenses, were engraved with a 58mm focal length. In June 1961, Carl Zeiss changed the engraving to 55mm at Zeiss Ikon's request. (The DIN standard permitted a tolerance of ±6 % between the real and the engraved focal length.) All engraved rings already produced were destroyed. As far as I know, no lens with the engraving of 58mm ever came to the market. A prototype f/1.4 58mm Planar (10 20 63 A VI/1) is identical to the 55mm lens from actual production. Two years later, we tried to reduce the



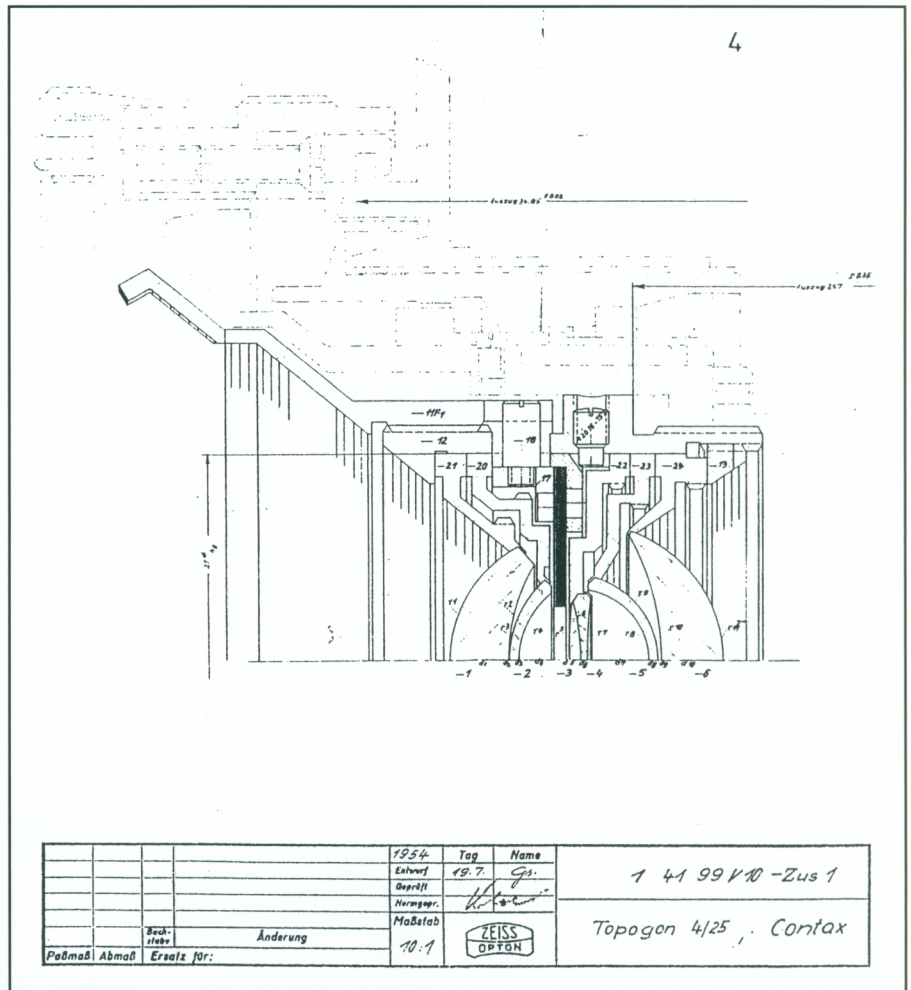
focal length of the fast standard lens to 50mm. The prototype (10 20 92 V10) is a Planar type with eight lens elements. The price-to-performance ratio was better for the existing lens, and the investment to start the production process would surely not have been profitable considering the relative small sales that could be anticipated.

Lastly, in 1970, we designed an f/1.8 50mm Planar for the Rolleiflex SL 35. A sample made in the Contarex mount was too late for any practical use because the Contarex was already out of production by then. I can also show you a 35mm Distagon with the maximum aperture of f/2.8. This six-element lens had a very good image quality. I think it was pushed aside by the f/2 35mm Distagon that was developed soon after.

A lower-priced 85mm lens, attempted in 1958, was a Sonnar with a maximum aperture of f/2.8 that was the equivalent in design and quality to the f/2.8 50mm Sonnar already mentioned. In 1964 we designed an f/2 85mm Planar for the 35mm movie camera, the Arriflex. This lens was also offered to Zeiss Ikon. However, there was no reason for Zeiss Ikon to replace the very popular f/2 85mm Sonnar.

Next is a forerunner of the Contarex zoom lenses. This lens, the "Mutanar," had an aperture of f/2.8 and a focal length variable from 52mm to 102mm. Unlike the well-known Vario-Sonnar lenses made for the Contarex, the Mutanar is optically compensated. That is, when changing focal length, two coupled lens groups are moved through equal distances. This optical compensation is easy to realize mechanically, but with three lens groups in the so-called "pancratic part," as we have in this lens, the image has the same position only for three focal lengths in the range. At other focal lengths there is a focus shift that will produce unsharpness if the focus is not adjusted. In a zoom lens with mechanical image compensation, two or more lens groups are moved independently of each other, so that any image-plane deviation can be avoided over the whole zoom range.

Finally, I will show you some lenses



An f/4 25mm Topogon, designed in 1954 but never brought to market. The thin, deeply curved elements in this six-element lens would have been too expensive to produce, and the f/4.5 21mm Biogon had better imaging quality.

prepared for the Weber camera SL 75. This camera, developed by Zeiss Ikon under the name "Contaflex 725" or "Contaflex mini," is also illustrated in Kuc's book. At that time Zeiss Ikon was going out of the camera manufacturing business, and Carl Zeiss was therefore eager to find a new customer for its line of 35mm-format lenses. Weber purchased the technical drawings and tools from Zeiss Ikon with the intention of bringing this camera to the market himself. Ultimately, he was not able to do this economically, and the effort was abandoned. Weber had intended to use the Contarex bayonet but with the diaphragm also set on the camera body, and the position and angle of the diaphragm control were different from the Contarex. Seven

lenses were developed for this camera, and I brought five of them for your inspection.

1. The samples displayed by Kämmerer during his presentation are identified by "V" numbers (for "Versuch," or "experimental") in parentheses in this text.
2. Jena was also making a version of the Topogon at about this time.
3. The book by Hans-Jürgen Kuc (*Contaflex Contarex Gesichte Technik Fakten*) was published in 1989 and is now out of print.
4. This "Satz-Tessar" design for a family of lenses with a common rear element for limited wide angle and telephoto use as well as the normal lens had been designed by Ernst Wandersleb of Carl Zeiss some 35 or so years before and was never used until the Contaflex. Strangely, the similar "Satz-Pantar" lens family, mentioned later in the text, was designed at Goerz in 1904 and adapted for use on the less expensive Beta and Prima Contaflexes. □



## *Zeiss personalities.....*

*Another in the series assembled by Larry Gubas*

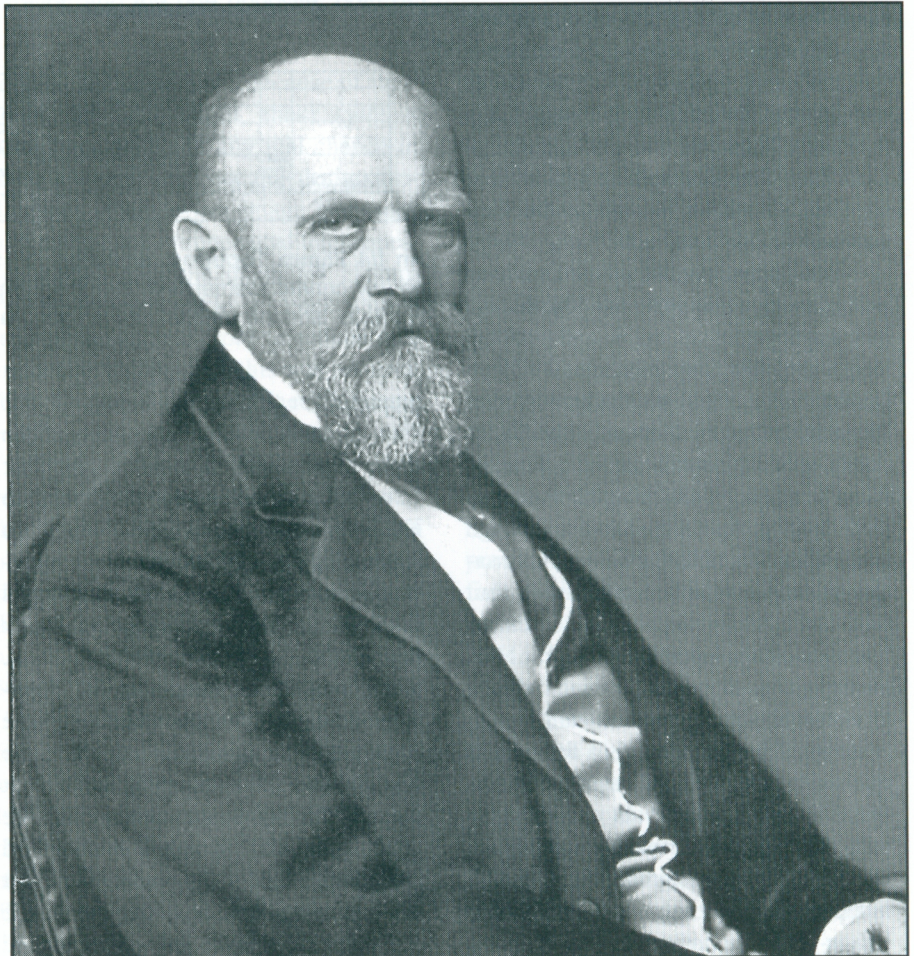
# **Carl Paul Goerz (1854–1923)**

Carl Paul Goerz was born in the state of Brandenburg in what would soon become Germany. He apprenticed in the optical firm of Emil Busch before founding his own business. In 1886, he took over a small shop that supplied schools with various mathematical and drawing instruments. Within a year he added photographic supplies and soon began the manufacture of photographic lenses that were designed by Carl Moser. He also became allied with Ottomar Anschütz, who was a famous photographer based in Berlin. Anschütz had developed a focal plane shutter for his own use, and Goerz began to manufacture similar shutters within a large format camera.

The small shop quickly grew into the firm of C. P. Goerz, which eventually had subsidiaries in all sorts of photographic and optical fields. While Zeiss was developing Paul Rudolph's famous anastigmats (the Protar), Goerz manufactured cameras and lenses with several of Emil von Hoegh's lenses.

### **The Dagor**

Von Hoegh had come to Goerz after having developed telescopic optics for the firm of Carl Bamberg and having his offer of a new lens design turned down



**GOERZ**



by Zeiss. Since Zeiss would not employ him, von Hoegh took his new design to Goerz, who accepted it. This lens was a cemented triple lens that was corrected for spherical and chromatic aberration and had a flat field free from astigmatism. However, since it was not corrected for coma, it had to be assembled in pairs about a central stop or diaphragm so that the symmetry would remove the coma automatically. This was a scientific step that the perfectionists at Zeiss would not tolerate, and the Goerz lens became known as the Double Anastigmat Goerz or "Dagor." Beginning in 1892, this lens became a prime product for Goerz; within four years 30,000 of these lenses were sold and they put Goerz into a very strong position in the marketplace.

Before retiring from the firm in 1902 for health reasons, von Hoegh would add two other truly significant products to his credit. These were the Celor and the radically wide-angle Hypergon, which had a spinning attachment to balance exposure across the full field of the lens. Zeiss took over the manufacture of both the Dagor and Hypergon in 1926.

### Growth

Goerz was among the first firms besides Zeiss to exploit Schott's Jena glasses for photographic objectives. His firm grew to employ 1,000 in 1900 and 3,000 in 1914. He added manufacturing locations in Friedenau, Winterstein, and a film and chemistry subsidiary in Zehlendorf. He also manufactured binoculars, one type of which became standard issue for the German military. He expanded his firm into many different countries including France, England, Russia, and the United States. These locations were opened as separate firms to avoid the huge tariffs that protected national businesses in those times. Goerz was the second largest optical and fine mechanical firm in Europe, behind only Carl Zeiss.

### World War I

While having this important base in photographic products, the firm moved very heavily into military products prior to and during World War I, and these

became a major part of its business. After the War, when the Treaty of Versailles (1919) forbade German companies from continuing to make these optical munitions products, Goerz found it very difficult to retool and reorganize his business back to commercial ventures. He did ally with the firm of Hahn in Kassel, which produced high-end cinematic products and lock and key systems. Goerz also cooperated with the firm of Steinheil to open an independent optical glass factory, Sendlinger, in Berlin to compete with Schott (and hence also with Zeiss, because Schott and Zeiss were "sister" firms). Thus, both Goerz and Steinheil were able to avoid dealing with their competitor, Zeiss. Yet ultimately Goerz was forced to seek other investors, including Carl Zeiss.

### Financial problems

After Goerz's death in 1923, the firm became almost totally insolvent during the severe German depressions. Despite a serious offer to sell the firm to Kodak his heirs eventually joined his company with others to form Zeiss Ikon in 1926 and 1927. The Goerz family

would remain stockholders in Zeiss Ikon until that company stopped manufacturing cameras in the early 1970s. The Sendlinger glass factory was given over to Schott, binocular and telescope production ceased so as not to compete with Zeiss, and the cinematic business (originally from Hahn) joined Ernmann and Ica within Zeiss Ikon. Herman Joachim, the senior partner in the Hahn component of Goerz, moved to Dresden to work with Alexander Ernmann. The manufacture of lock systems, which had also entered Goerz via Hahn, went into Zeiss Ikon, as did the photographic film, chemical and adding-machine manufacturing part of the business.

The American and other subsidiaries survived many more years independent of Zeiss. After the Second World War, Goerz's grandson became the President of Carl Zeiss, Inc. in the United States, replacing Karl Bauer when the Carl Zeiss Stiftung purchased that company back from the US government. As was the case for many of the entrepreneurs of the period, the Goerz firm flourished during his lifetime but could not be sustained by his heirs. □



A Christmastime advertisement from 1925 showing the major lines of business with the Box Tengor and Tenax cameras, the Triedier and neo-Triedier binoculars and the rare table barometer that later evolved into the Zeiss Ikon Berlin art-deco model. Less than 9 months later, the firm was absorbed into Zeiss Ikon.



# Zeiss and Ross, London and Mill Hill.

William Reid, Richmond, UK

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*The purposes of this paper are two-fold. Initially to describe the origins and establishment of the London factory and retail premises of Carl Zeiss (London) Limited. Then to expand what has been written about the British military binoculars manufactured in the company's Mill Hill factory by Zeiss, and subsequently by Messrs. Ross Ltd., with whom Zeiss had been associated since at least as early as 1892.*

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Binocular field glasses form a relatively modern target-topic for collectors. Students of technology discovered their history even more recently. As readers of this journal know, while a few good general works have been written the subject remains relatively arcane, followed only by small groups of men and women who meet from time to time in private homes in Europe and the United States. Not for us the metropolitan palaces of pseudo-culture, where the cartophiles, arc-topophiles,<sup>1</sup> and philatelists congregate in their thousands across the western world. At least, not yet.

At the end of 1998 £140,000 plus buyer's premium was paid for a splendid binocular telescope made for an aristocrat by the eighteenth-century master craftsman Pietro Patroni.<sup>2</sup> That sort of figure is unlikely to be approached often. Even minor items are unlikely to reach any generally accepted "standard" values before the publication of a binoculars' vast and indispensable authority, McKeown's Price Guide to Antique and Classic Cameras. Until such a volume sets at least a few tariff levels the amounts paid will continue to be governed largely by personal taste, and binocular collecting will remain a rela-

tively inexpensive diversion whose adherents can anticipate with some confidence that the occasional bargain lies just around the corner. Yet without knowing what instruments were designed and made by a myriad of optical manufacturers, neither the vendors nor their collector customers can begin to guess what might be available, and that sort of information is still in short supply.

This leads me ("at last" you might say) to my point. As a research theme the annals of binoculars are approaching the position that vintage cameras and historic firearms reached fifty years ago. Based on experience of those broadly parallel subjects, what remains to be discovered about the history of the field-glass, and its sister instruments that were used at sea and in the theater, will inevitably be fed to us in penny packets. Knowledge will advance only through publication of the results of specialist investigation of the evidence to be found in the archives at Jena, the University of Glasgow, surviving company repositories, and some national libraries. For example, the Science Reading Rooms of the British Library alone house 41 million patents, a proportion of which anyone interested in binocular history

would find enlightening. Even your local optical supplier's stock room might yield some nuggets in the form of ledgers, customer records or old catalogues. The more experienced among us regret that oral history arrived too late to benefit devotees of the halcyon days of the optical innovators, and that sales leaflets that were once distributed free in tens of thousands of copies are now worth their weight in dollar bills.

At this point it must be stressed that documentary research alone will never be enough, for its value is limited by the searchers' ability to match their discoveries against an intimate knowledge of a large corpus of binoculars. Sadly it is only in private collections that these are to be found in sufficient numbers and variety. For there is no single public museum on earth where, for example, the many models produced at Jena during the heyday of Carl Zeiss can be compared with those made in Russia's Bolshevik factory or Spencer's workshops in Buffalo. Strangers to the subject must find it incredible that more binoculars can be found at an average antiques and collectors' fair than are to be seen in some major institutions devoted to the history of science.

What follows is the result of this





**Left:** At the front, a British Army 6 x 24 *Binocular, Prismatic, No. 3 (Mark I)* having the trademark CARL ZEISS / LONDON over 1914, with the Chief Inspector's registered no. 9331 and rim number 346226.WR/K330. At the rear, a Jena-made 6 x 21 *Telex 254198*, c. 1911. WR/K065.

**Right:** The rear cover-plate inscriptions on the Carl Zeiss, London, *Binocular No. 3* shown at the front of the illustration to the left.

(Note: the catalog prefix "WR/K" indicates that the binocular is in my collection.)

cross-disciplinary approach to delving in remote and inconsequential corners of previously unploughed fields.

### The Binocular Prismatic No.3 and Zeiss (London) Limited

Since early in the annals of binocular collecting, students have been aware that significant numbers of the British Army's *Binocular, Prismatic, No.3 Mark I* and *Mark II* are inscribed CARL ZEISS LONDON, CARL ZEISS (LONDON) Ltd, or ROSS LONDON (MILL HILL).

When first introduced in 1907 the *No. 3* binocular, an early Zeiss *Telex* in all but name, had the specification 6x21, that is to say, it magnified 6 times and had an objective lens of 21mm diameter.<sup>3</sup> By the outbreak of the First World War it had been increased to 6x24. In this it appears to follow changes in the *Telex*: introduced as a 6x21 binocular in 1907, the diameter of its objective lens was increased to 24mm in 1912. The neat little 6x24 *No. 3* instruments that sail under the flags of both Zeiss and Ross are identical in design and construction.<sup>4</sup> So alike are they that even without the evidence that has recently come to light it was obvious to the most artless novice that many glasses of

that military specification inscribed with the companies' names were almost certainly made from the same patterns and molds.

To judge solely by the dates of manufacture inscribed on them, and the earliest occurrences of Ross's name and address, it appeared that the South London firm must have taken over the Zeiss London factory around the middle of the First World War, probably early in 1917.

Let us first look back a few years to the foundation of the London branch of the greatest binocular maker the world has known.<sup>5</sup> From the 1840s, Zeiss sold more than 10% of its entire microscope production through a London warehouse. Within three years of the creation and introduction in 1894 of the first Zeiss prismatic binocular, which the company named *Feldstecher*, it was being advertised as available from a Carl Zeiss address at 29 Margaret Street, London West.<sup>6</sup> The shop was situated a few doors from another that was occupied by George Sallow Martin, surgeon's optician and spectacle maker, who also sold Zeiss binoculars from premises at no. 25 in the same street.<sup>7</sup> Martin's name and address are inscribed on the flat bridge-disc of an 8x20 Zeiss *Feldstecher* that survives from that early

period.<sup>8</sup> (See illustration below.) Although the binocular's serial number, 8465, tells us that it dates from the last three or four years of the nineteenth century, its case is inscribed "E E Barlow RA," the name of an officer who was commissioned in the Royal Artillery on 12 December 1939. Barlow served throughout the Second World War, and held the rank of captain when released from embodied service towards the end of 1946.<sup>9</sup> It seems probable that he inherited the instrument from an earlier owner whose ini-



**Retailer's address** on *Feldstecher* serial no. 8465 manufactured in Jena around 1898. WR/K495.



tials, E.H.B., are also on the case; his father perhaps? To this day the little binocular remains in perfect optical condition.

But I digress. As a consequence of the increased demands of the Boer War (1899–1902), sales to the British armed forces from the factories of Zeiss and their arch-rivals C. P. Goerz of Berlin-Friedenau soared. Optical munitions soon comprised in excess of half their total exports to the United Kingdom, and both companies saw that further market penetration would only be possible if they had more than a foot in the door. I do not propose to speculate on the reasons that brought Zeiss to London some four years after Goerz had established an optical company in Britain's capital.<sup>10</sup> In a variety of publications writers have suggested that the intention was to avoid customs duty and other limitations on trade. Others have attributed the development to the German need to circumvent the vagaries and intricacies of Britain's patent laws, or to the value of a convenient base from which they could service their customers' needs in training, installation, and repairs. They were surely also aware of the increased possibility of official contracts being granted to a British-based factory.

Whatever the incentive, or combination of factors, the new company's Certificate of Registration was completed on 2 November 1909, the same day that the following men signed the 36-page Memorandum and Articles of Association:

Max Poser, 17 Byron Road, Mill Hill, NW,  
Gentleman;

Paul Henrichs, 20 Hornsey Lane, Highgate N,  
Gentleman;

Harvey Edward Preen, Chartered Accountant;  
Herbert Walker Marten, Chartered Accountant.

Within the year the accountants' names were replaced on an agreement between Carl Zeiss Jena and Carl Zeiss (London) Limited by that of a solicitor, G L Wagstaff, who was appointed as its secretary.<sup>11</sup> The German element on the board was increased specifically to represent the Jena interests by the accession

of Dr P. Fischer, with the young Dr Ing W Bauersfeld, a member of the main board of management, as an additional director.<sup>12</sup> The introduction to the agreement is of sufficient interest to justify its quotation in full:

Agreement between Carl Zeiss of Jena (hereinafter called the Vendors) and Carl Zeiss (London) Limited (hereinafter called the Company).

"Whereas the Vendors have for some time past carried on business as manufacturers of and dealers in photographic lenses, camera, microscopes, telescopes, field, race, opera and marine-glasses and other optical instruments at Margaret Street in the County of London and have made preparations to carry on the said business at Bittacy Hill in the County of Middlesex...."

By 1 September 1910 the registered office of the new company was established at Great Castle Street in central London. A month later the board of directors was augmented by the appointment of Professor Dr Rudolf Straubel (1864–1943), a distinguished scientific industrialist who, like Bauersfeld, was already a member of the main committee of management at Jena.<sup>13</sup>

Two new directors were appointed on 15 June 1915. Naturally, since the United Kingdom had been at war with Germany for almost a year, both were British nationals. A solicitor, Thomas Charles of 67 Moorgate Street, London, took up what was described as an additional appointment, and Charles Murray Playfair, a retired army officer whose address was given as 13/14 Great Castle Street, also joined the board.<sup>14</sup> Other radical changes in the board's composition occurred two months later when Bauersfeld, Straubel and Fischer vacated their seats under the provisions of the Articles of Association. Then Henrichs resigned, and it would appear that the company was left in the control of Playfair and Charles.

Despite those mutations, a document dated 22 February 1916 reveals that while Playfair and Charles were the only remaining directors the company's share capital of £10,000 remained in the hands of nine men owning one share each, with the remaining £9,991 being held by Carl Zeiss Jena. Within a year, on 11

January 1917, Playfair and Charles were also out of the running, when a winding-up notice was served on the company under the provisions of the Trading With the Enemy Act 1916.<sup>15</sup>

The imminent transformation in the management structure must have been under consideration by British government departments since early in the war. Eventually it was decided that the time had come for the company, which was still in the nominal ownership of an enemy agency, to be subsumed within a native British establishment—one that would be capable of running it effectively, without any danger of a disastrous fall in production. A Chartered Accountant, Louis Hay Weatherby, was officially appointed Controller with the responsibility of winding-up Carl Zeiss (London) Limited, whose address was changed to that of his office at 14 George Street, London EC. As a creditor, the company's erstwhile solicitor, Thomas Charles protested under the provisions of the Companies (Consolidation) Act of 1908, but to no avail.

### The Ross take-over of 1917

When precisely did Ross take over the Zeiss works and by what mechanism? These questions, which had long tormented me, were answered through good fortune while I was working in Britain's Public Record Office (PRO). That historical Aladdin's cave chronicles a thousand years of the nation's history through millions of documents stored on shelving that could reach from Cleveland to Pittsburgh. Towards the end of exploring an index to the surviving papers of the Ministry of Munitions of War, in a section concerning Public Works that could hardly be described as piquant reading, the names Zeiss and Ross leapt off the page.

The index entry refers to a letter headed "Trading with the Enemy Amendment Act 1916 / Carl Zeiss (London) Limited." It advised the Deputy Director of Munitions Accounts, Northumberland Avenue, London WC2, that Ross Ltd of Clapham Common, London, had bought the business of Carl Zeiss (London) Ltd from the Controller appointed by the Board of Trade on 13



June 1917.<sup>16</sup> The purchase included the optical manufactory at Mill Hill with all the machinery and tools therein, and the commercial premises at 13 and 14 Great Castle Street, which is adjacent and parallel to Margaret Street, where Zeiss had their earliest known commercial address in London. Moreover, Ross took over all the ministry contracts that Zeiss had been filling for the previous three years.

It would appear that Ross started to trade from Nos. 13 and 14 within a month of their acquisition. The new owners, who submitted some early bills from that address, asked the ministry to keep separate the payments relating to contracts fulfilled by their Mill Hill Works and the factory at Clapham Common. Gilchrist, Ross's manager who signed the letter, told his opposite number, a civil servant at the DDMA's office, that bills relating to the Great Castle Street enterprise, and therefore for work done by the Mill Hill works, would be marked with the Ross reference "M.H." and a number. This would distinguish them from accounts relating to contracts placed with the company's home base, where Ross continued to make No.3 binoculars to their own characteristic design at the same time as they turned out Zeiss-style *Binoculars, Prismatic, No.3* at the newly acquired premises in London's northern suburb.

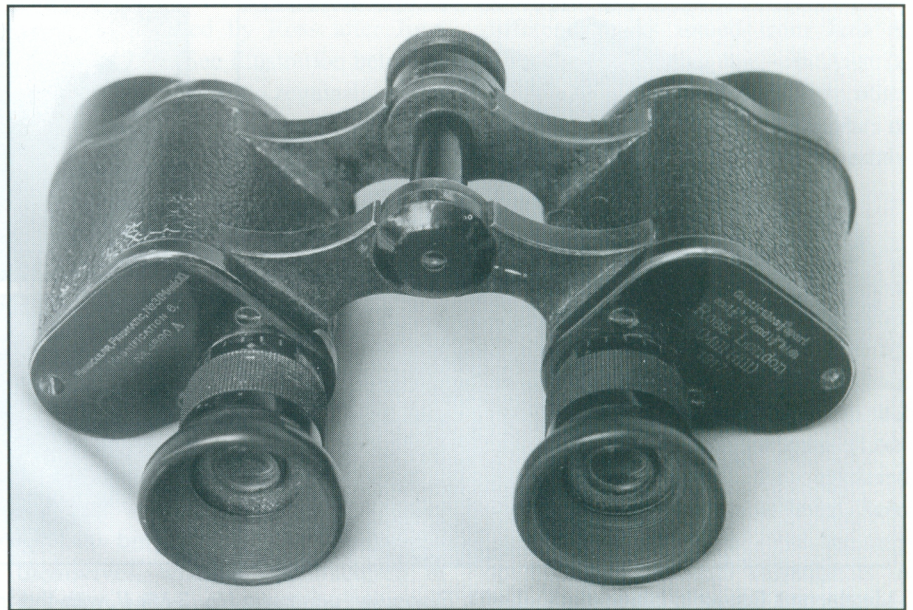
The differences between the Ross and Zeiss types are described and assessed in the *Handbook of Artillery Instruments*:<sup>17</sup>

The binoculars vary slightly in construction; makers being allowed to manufacture to the designs they consider best. They must, however, comply with the details given above. The Zeiss pattern, although it has a smaller field than the Ross pattern, has greater brilliancy.

The principal differences are that those made by some makers have the hinges formed from the cover plates whereas those made by other makers have the hinges formed on projections from the aluminium bodies.<sup>18</sup>

See the illustrations on this page for examples of the Zeiss and Ross styles.

The Ministry of Munitions was pleased with the production figures



**Binocular, Prismatic, No. 3 (Mark II)**, of the Zeiss form, inscribed Ross London (Mill Hill) 1917, with the registered no. 4890A and rim no. L460657. WR/K142.



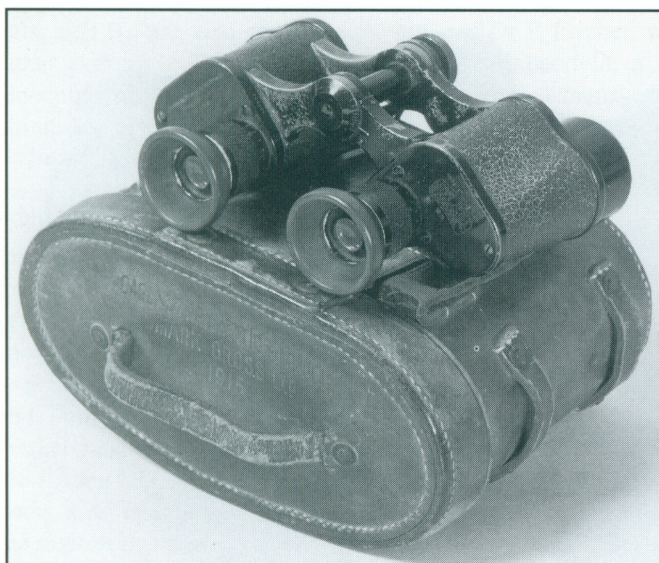
**Binocular, Prismatic, No. 3 Mk I**, dated 1912, produced at the Clapham works. This binocular shows the characteristic Ross design, where extensions to the cover plates form the hinged arms of the upper and lower bridges. WR/K435.

attained by the new management. As early as 6 September 1917 the inspectors reported that the enthusiastic atmosphere in the works had helped to achieve the distinctly satisfactory production of 75 binoculars in a week.<sup>19</sup> After that there was a slight levelling-off. Fifty-four were delivered in each of the ten weeks to 13 December 1917, but it was anticipated that the number would

soon rise to 80 per week.<sup>20</sup> By the middle of the following year a technical report stated that "The instruments now coming in (to the test center at Woolwich) from Mill Hill are very satisfactory."<sup>21</sup>

Under Ross direction the Mill Hill factory continued to produce binoculars for the British armed forces for a few more years.<sup>22</sup> To judge by surviving





**Lieutenant Brown's binoculars. (Left):** *Binocular, prismatic No. 3 Mk II*, with the trade mark "CARL ZEISS (LONDON) Ltd.", registered no. 10605, dated 1915, with the rim nos. 455823 and L1648. The binocular and its case by Mark Cross Ltd. have the name of Lieutenant F. N. Brown, Royal Field Artillery, to whom they were issued from store. WR/K014

**(Right, top):** The left cover plate of Lt. Brown's binocular, showing a description of the graticule fitted to the right eyepiece.

**(Right, bottom):** Brown's name and regiment, with the broad arrows *confrontés* indicating a government item sold as surplus to requirements.

examples most, if not all were of the 6x24 Zeiss pattern known as the *Binocular, Prismatic, No.3*. The *Mark I* was made without a graticule, the *Mark II* had one of a simple, standard British Army design in the right ocular.<sup>23</sup> The majority of the binoculars made at Mill Hill, whether marked Zeiss or Ross, have their makers' names and addresses and the date of manufacture on the right rear cover-plate. A four- or five-digit number inlaid in Wood's metal on the left cover-plate is accompanied on the *No.3 Mark II* by a description of its graticule.<sup>24</sup> (See illustration, above.) On a few early exceptions the inscriptions are found on the front cover-plates.<sup>25</sup>

**Identifying numbers on No.3 binoculars**

The British method of marking prismatic binoculars supplied to the army is set out in paragraph 15 of the Specification to govern manufacture and inspection of binoculars No.2, Mark I and No.3, Mark I, which the Director of Artillery approved on 26th August 1915.<sup>26</sup>

Unfortunately the Specification does not explain the War Office policy of

engraving some binoculars and stamping their cases with the names of the officers to whom they were issued. With the benefit of hindsight it seems imprudent to mark an instrument or a case with the name of a young infantry

officer whose trench-life might be measured in weeks rather than months, and that of a field artillery officer was not much longer.

The Specification answers any questions that a student may wish to ask

*Marking* — The nature of instrument, Contractor's name or recognized trade mark, year of supply, and registered number are to be engraved on the rear covers (i.e. the covers nearest to the eyepieces), thus: —

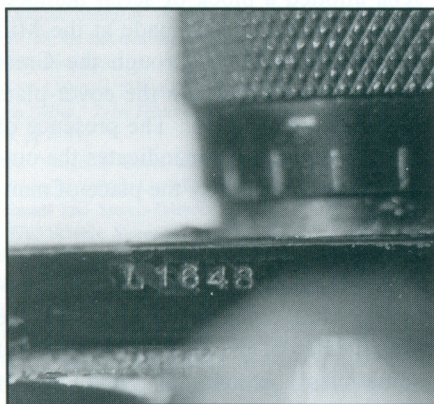
<p><i>On the left side. —</i>                  Binocular, prismatic No 2, Mark I (or                  "Binocular, Prismatic No. 3 Mark I")</p> <p>Magnification 6,                  No.</p> <p>The registered numbers will be supplied on application to the Chief Inspector Royal Arsenal, Woolwich.                  The case is to be stamped or branded with 3-inch letters on top of the cover thus: -                  Case No.2 prismatic binocular (or "Case No. 3, prismatic binocular", as may be ordered).                  Jones &amp; Co., 1915.</p>	<p><i>On the right side. —</i>                  Jones &amp; Co.,                  1915</p>
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"Specification to govern manufacture manufacture and inspection" of binoculars, approved by the Director of Artillery in 1915. (Adapted from a copy in the Barr & Stroud records in the Glasgow University Archives; see reference 26.)



about inscriptions on the flat surfaces of No.2 and No.3 cover plates. It does nothing to help with others that are found individually punched in tiny numerals on cover-plate rims. Initially, it seemed possible that a correlation might be found between the three numbers that one finds on many binoculars of this and other patterns. They are:

- (a) The registration number inscribed on every binocular ordered by the Chief Inspector, Royal Arsenal, Woolwich.
- (b) A six-digit number stamped on a cover-plate rim. This appears to be part of a block of numbers beginning about 340000, that continued from the long-established numerical series used in the Jena factory of Carl Zeiss but was differentiated from it by the addition of a prefix or suffix L, indicating binoculars made in London. These six-digit numbers might well have been allotted in more than one block. Less probably, they may also indicate instruments exported by Jena and marketed for a brief period through the London shop.
- (c) A four-digit number, also stamped on the rim, but less frequently than the serial consisting of six-digits. Mostly it too has an L prefix or suffix. It seems likely that this was a local serial, used initially only by Carl Zeiss on binoculars made at Mill Hill,



The four-digit rim number on Lt. Brown's binocular (shown on opposite page). Approximately 2 × life size.

but adopted by Ross after June 1917.<sup>28</sup> (See illustration below.)

Attempts to detect a regularly recurring arithmetical relationship between each series by, for example, identifying matching intervals between numbers in the three groups have not been successful. On consideration, however, there is no reason why they should exist other than through random coincidence. The Chief Inspector sent registered numbers to the manufacturers in blocks that were almost certainly linked to the quantities of binoculars in a given contract. If that were the case, a block of 500 registered numbers would accompany a contract for 500 binoculars. The instruments themselves, whether manufactured in Germany and exported to London, complete or in parts, or made from scratch at the Mill Hill factory, were almost certainly given their six- and four-digit numbers in chronological sequence as they came off the test bed. There was no need for the factory to store them in such a way that the most recently completed instrument was awaiting the arrival of the next registration number from Woolwich. However, the two Zeiss serials punched on any individual binocular are much more likely to bear some relationship to other pairs in the series, a hypothesis confirmed by Thomas Antoniadis and Stephen Sambrook who have independently identified a number of related intervals.<sup>29</sup>

I have not yet decided whether those suggestions concerning the significance of rim enumeration are more likely to be confirmed than confuted when binoculars made in or marketed through other "foreign" Zeiss outlets are similarly analyzed. One military *DF 8x*, no.232, is dated 1912, and inscribed in Cyrillic script "Carl Zeiss / St Petersburg" within the customary lens cartouche.<sup>30</sup> On the rim of the right rear cover-plate is a number that appears to be 293432. Perhaps other owners of Zeiss instruments marked in such a way as to suggest that they emanated from factories beyond the confines of Jena will find that the presence or absence of rim numbers will clarify this minor matter.<sup>31</sup> Are there many binoculars whose rim numbers suggest that they were part of

different blocks issued from Jena to branches – *Zweigwerken* – in Austria, Hungary, Russia or, indeed, any other country where Zeiss made binoculars or marketed them through a locally established sales organization?

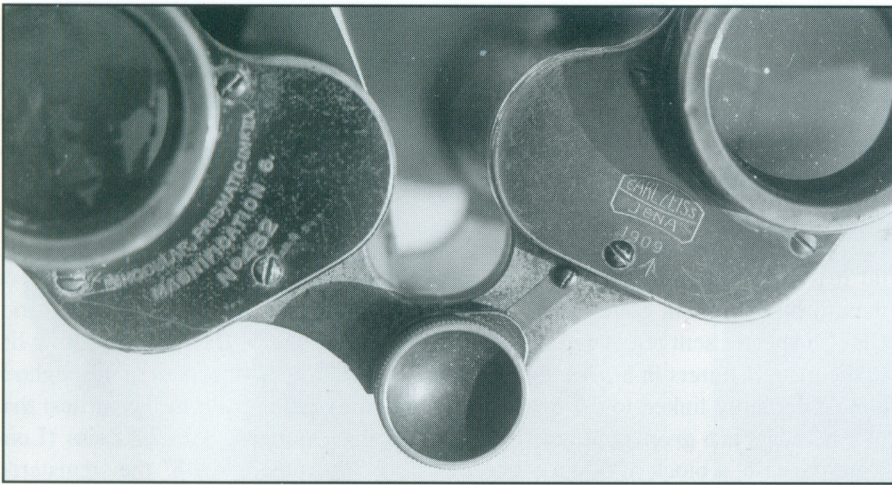
### Model variations

Whether they bear the names of Zeiss or Ross, surviving *Binoculars, Prismatic, No 3* from the Mill Hill works show little variation in the pattern throughout their production. From the earliest that has been noticed, a 6×24 Zeiss (London) instrument with the registered number 810 of 1913, to the latest, Ross (Mill Hill) no. 5051A of 1918, the only obvious constructional variation is in the outline of the objective cell. As can also be seen in other binocular patterns of that period from the Jena factory, the earlier form is a solid casting with a flat, squared-off end. The internal surfaces of both types have their objective cells turned to reduce reflections within what amount to short, centimeter-deep ray-shades. To judge by a few dated examples, which hardly comprise a valid statistical sample, a lighter, rounded cell succeeded the square section towards the end of 1914 or early in 1915. That was at about the same time that the trade-mark was changed from CARL ZEISS LONDON to CARL ZEISS (LONDON) Ltd.

### The 6 × 30 models: Binocular, Prismatic, No.2 and Silvamar.

Instruments with the Carl Zeiss Jena trade-mark in the 6×30 specification, marked *Binocular, Prismatic, (Mk. II)*, and known from 1911 as the *Binocular, Prismatic, No.2*, are much rarer than the No.3 model.<sup>32</sup> The two earliest known Zeiss binoculars to bear broad arrows and a British military designation are Silvamars in everything but their inscriptions. Both are marked on the right front cover plate with the Jena trade mark over the date 1909. The inscription BINOCULAR, PRISMATIC (Mk II) / MAGNIFICATION 6 / No. 439 is inlaid on the left of one glass.<sup>33</sup> The registration number 482 follows a similar inscription on the second glass.<sup>34</sup>





**Specification and Zeiss Jena trade mark** on the front plates of 6x30 *Binocular, Prismatic, Mark II* dated 1909, with the Chief Inspector's registered no. 482 and serial no. 163957 on the cover-plate rim. (Collection Thomas Antoniadis, London)

Only one 6x30 binocular has been noted with the Zeiss trade-mark and a graticule description on the rear cover-plates, yet not having either a Chief Inspector's number or a rim number such as appears on *No.3* binoculars.<sup>35</sup> (See "Lt.-Col. Drayson's *Silvamar*" illustrated below.)

This too is a *Silvamar* in every respect other than the legends. Even the eyecups, although of dissimilar cross-sections, are interchangeable between

this unnumbered glass, which is inscribed *Binocular, Prismatic, No.2 Mk I*, and a slightly later *Silvarem*.<sup>36</sup> The latter can be dated by the Jena serial no. 361946 to ca. 1914. At first sight the inscription on the glass, and the fact that the parts are interchangeable suggest that the specification for a London-made *Binocular, Prismatic, No.2* was established in Germany, but it seems unlikely that the model was ever produced at Mill Hill. In the last year of the

war an inspection established that, since the factory by then known as Ross (Mill Hill) was not equipped to make the *No.2*, it was given a contract only to supply binoculars to the 6x24 specification of the *No.3*.<sup>37</sup> That may not be conclusive evidence, but it seems extremely unlikely that factory production of an essential piece of military tackle would have been allowed to lapse.

In my opinion, Drayson's London *No.2* was a sample *Silvamar*, made and inscribed with the British Army specification at Jena before being shipped to London in the hope of winning a contract to supply the army. When that was not forthcoming the binocular passed into the stock of Dixey, who traded only a few hundred yards from the Zeiss premises in Great Castle Street, to be bought subsequently by Lt.-Col. Drayson.

I have seen only one other Zeiss model bearing the London trade-mark CARL ZEISS (LONDON) Ltd within a lens cartouche of the form that was typically used for the products of Jena.<sup>38</sup> This may prove to be an important piece in the jigsaw puzzle, for it is a *Silvamar* made for the civilian market; that is to say it does not have the Chief Inspector's registration number, the broad arrow markings that indicate British State ownership, or the name of a soldier-owner. The addition of an L prefix to the number 357061, which is also framed in a lens cartouche under the model name, supports the theory that Jena allotted a block of serial numbers for use on binoculars made at the Mill Hill works, or sold through the Great Castle Street shop. On the cover-plate rim is stamped 1516L. The presence of London's initial letter indicates the outlet but not necessarily the place of manufacture.

More questions concerning Carl Zeiss, London, inscriptions on binoculars remain unanswered. What is the significance of the letters A and N that sometimes accompany the Chief Inspector's registration numbers? As the British Army was the prime customer for the *Binocular, Prismatic, No.3*, might those letters indicate that



**(Above) *Silvamar*** with the trade mark CARL ZEISS (LONDON) Ltd. enclosing "L357061": on the cover-plate rim "1516L." Marketed by T. Mason, Dublin, c. 1913. **(Below) Lt.-Col. Drayson's 6x30 Zeiss *Silvamar*** marked *Binocular No. 2, Mk I*: on the cover-plate rim 340584. Marketed by Dixey & Son, London, c. 1912.

WR/K141, above; WR/K141, below.



the instruments were provided not for the army, but for the A(ir Battalion) and the N(avy)?

This brief survey was composed in an attempt to tidy my own thoughts. I hope that I have not unduly perplexed my brother members of Zeiss Historica in the process, and that those whose interests lie elsewhere will forgive me for restricting my remarks to binocular field-glasses.

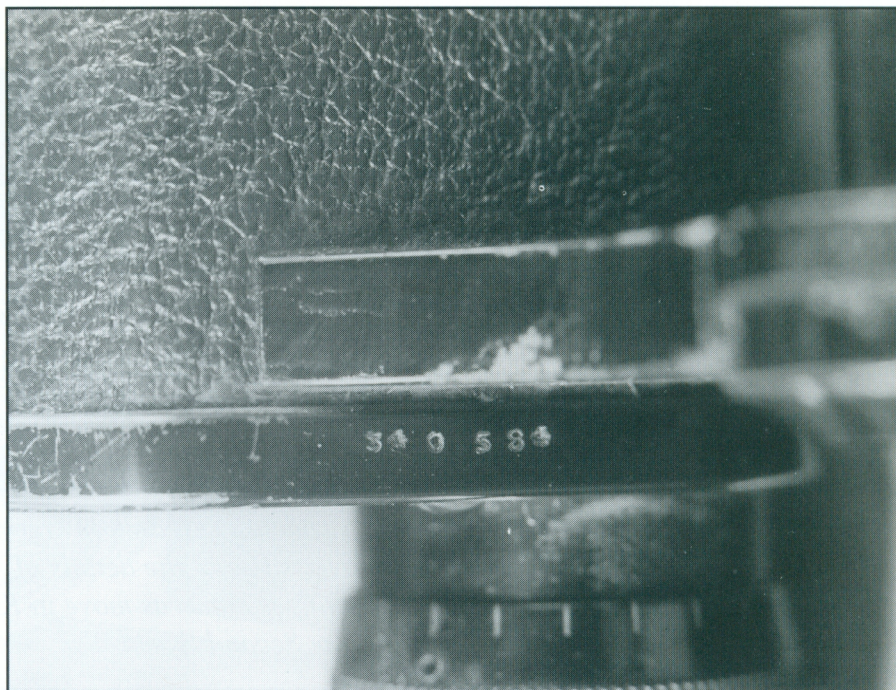
### Acknowledgments

The comments of Thomas Antoniadès have been most helpful in the preparation of this paper.

I am also indebted to Stephen Sambrook for his opinions on a number of questions, and for providing a copy of Antje Hagen, "Deutsche Direktinvestitionen in Grossbritannien, 1871–1918," *Beiträge zur Unternehmensgeschichte, Band 97, Neue Folge, Band 3*, with an invaluable translation.

### References

1. *Arctophile*, from the Greek *arktos* a bear: a lover of teddy bears, and by extension students, collectors, and dealers. Will collectors of binoculars ever enjoy such a classical name?
2. "Scientific and Engineering Works of Art," Christie's South Kensington, London, 17 December 1998.
3. No attempt will be made here to assess and compare Zeiss or Ross binoculars made to this specification with the product of Aitchison, Kershaw, Watson, or any other manufacturers who supplied the British armed forces.
4. William Reid, "Binoculars in the Army," Part II, *Army Museum '82*, National Army Museum, London. For an account of the evolution of Zeiss binocular designs see Hans T. Seeger, *Feldstecher—Ferngläser im Wandel der Zeit*, Borken, 1987.
5. A slim file in the Public Record Office (PRO), Britain's national archive, holds the legal documents required by law when Carl Zeiss (London) was set up as a limited company in 1909: PRO BT 31 / 19065 / 105708, the last number being that given to the company on its formation.
6. Fred Watson, "How Zeiss Binoculars made their London Début," *Zeiss Historica*, Volume 21, Number 2, Fall 99, pp.4–11.
- The Margaret Street address appears in the Zeiss "Descriptive Price List of New Portable Binocular Field-Glasses and Stereo-Telescopes," No. 2, dated 1 April 1896. Science Museum Library 50003563.
7. *Kelly's London Post Office Directory*, 1914, City of Westminster Archives Centre, London.
8. WR/K495
9. *The Army List*, December 1939, and December 1946.
10. Documents in respect of C. P. Goerz Optical Works Limited, 1905–19, similar to those establishing Carl Zeiss (London) Limited, are in PRO: BT 31 / 18480 / 98680.
11. In England, a solicitor is a person trained in the law who prepares briefs, drafts legal instruments, and advises clients. At that time he was limited with respect to the



The rim number on the Drayson *Silvamar* shown in the illustration opposite

courts in which he might appear.

12. Walter Bauersfeld (1879–1959), graduate of the Berlin-Charlottenburg institute of technology. Joined Carl Zeiss Jena 1905, board of management 1908, served the company for 51 years. Larry Gubas, "Zeiss Personalities Walter Bauersfeld (1879–1959)," *Zeiss Historica*, Vol 22, Number 2, Fall 2000, p. 11
13. Larry Gubas, "Zeiss Personalities Dr. Rudolf Straubel (1864–1943)," *Zeiss Historica*, Vol 21, Number 1, Spring 1999, p.16.
14. Captain Charles Murray Playfair, b. 3 April 1873, commissioned Royal Artillery 6 April 1893, Captain 3 August 1903, retired 8 April 1908. *The Army List*. Playfair had been involved in Jena's London sales business since 1914. His home address in the middle of the first world war was Lowood, Mill Hill, London NW.
15. *An Act to amend the law relating to Trading with the Enemy and the export of prohibited goods* [18th December 1916].
16. PRO: MUN 4/4084, 17 July 1917
17. His Majesty's Stationery Office, London, 1914, p.40.
18. This model was made at the Ross works at Clapham Common from early in the twentieth century until 1935. Bulkier than the Ross *No.3 binocular* from Mill Hill it was also, at 550 grams, more than 10% heavier.
19. PRO: MUN 4/5006, Part 2 of 2, 6 September 1917
20. Note 19, op. cit., 13 December 1917.
21. Note 19, op. cit., 11 June 1918.
22. Twenty years ago I was told that an employee in the Ross drawing office, Charles Bickerton had written a history of the company. Attempts to find a copy have failed.
23. *Graticule*: known in the United States as a reticle or reticule.
24. When the 8×19 *Binocular, Prismatic, No.1, Mk.I* was introduced in 1907 for use by siege batteries of the Royal

Artillery a graticule was fitted in the right eyepiece.

25. E.g. WR/K167, which is numbered 810 and dated 1913, with broad arrows on both rear cover-plates.
26. A copy is preserved among the Barr & Stroud records in Glasgow University Archives and Business Records Centre: UGD 295/26/2/49.
27. For some years I wrongly identified the numerals that I now know to be the "registered numbers" supplied by Woolwich as the Ross factory serial.
28. As early as 1991 John Gould suggested the significance of both forms of rim number. Although almost certainly correct, his theory has yet to be confirmed by documentary evidence.
29. Personal correspondence.
30. WR/K305.
31. Hans Seeger, *Militärische Ferngläser und Fernrohre in Heer, Luftwaffe und Marine*, Hamburg, 1996, pp. 126, 146–7. ISBN3-00-000457-2
32. The British Army's stores nomenclature "Mark II," describing binoculars of this specification, was changed to "Number 2" in 1911: *List of Changes in War Materiel and Patterns of Military Stores*, 15670 of July 1911.
33. Thomas Antoniadès reported this item, 545604003 in an eBay auction, 29 January 2001.
34. Collection of Thomas Antoniadès, London. It has the rim number 163957.
35. WR/K141. The number 340584 is punched on the rim of the left upper plate.
- Engraved with the name of its owner, Lt Col A. P. Drayson, 6th Battalion, East Surrey Regiment, who was promoted to that rank on 4 June 1913. On the interocular scale is "DIXEY & SON / 3 NEW BOND STREET." Officers in the British Army and the Royal Navy were then required to provide their own binoculars.
36. WR/K362. The front plates are stamped with unidentified initials, namely, (left) "A.M." within a circle and (right) "R. / S.C.H."
37. PRO: MUN4/2573, 3 April 1918.
38. WR/K596, marketed by Mason, Optician, Dame Street, Dublin. □



# After Dresden: The migration to Jena and Kiev

Larry Gubas, Randolph NJ

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*The Society President's research in Germany helps to uncover some of the details of the Contax rangefinder cameras move to Kiev after the Second World War.*

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Over the years, I have seen much speculation on what happened to Zeiss Ikon's production of cameras after the Second World War. There was certainly a loss of production at all locations for a variety of reasons:

- the conversion from war-materials manufacture was difficult to reverse,
- there was bomb damage at almost all locations but most seriously in Dresden and Berlin, and
- the "Demontage" or dismantling and expropriation of their facilities in Dresden and Berlin by the Russians as war reparations.

I have seen recent books and articles about the Kiev camera which, while very thorough, did not address many of the issues. This was because they were based solely on observation of the products and on advertising. The fact that Zeiss Ikon went out of the camera business in 1970 and the remnants of post war Zeiss Ikon in Dresden were dispersed into a series of various "kombi-

nats" under a communist-controlled government have left very little in the way of adequate historical documentation. Because the dispersal began 55 years ago, the people directly involved with those events are not with us to talk about it. Therefore, I resolved to make an earnest attempt to summarize what I knew and what I could find out about some of these mysteries. To this end, I made a true pilgrimage to Germany last year to search out what could be found.

## Dresden

First, I visited Dresden. There, I found that almost all of the buildings of the former Zeiss Ikon had been demolished, with only two buildings of the Ernemann location at the corner of Junghans and Schandauer Streets left standing. (See the illustration on page 18.) The main building and "building 59" had been turned over to the various postwar camera entities that we can best now call VEB Pentacon. ("VEB" stands for "People's Owned Enterprise.") Those organisations had stripped the outside of the building of all Ernemann and Zeiss

Ikon trademarks. They had covered the interior walls of the offices inside with a nearly quarter-inch-thick layer of white paint to obliterate any visual references to the capitalistic past.

The main building is now the home of the Dresden Technical Museum, which occupies the former office area on the first floor and has stripped away all that white paint and restored the Ernemann offices nearly to their original condition. The old Ernemann trademark appears in the middle of the marble entrance floor. The walls have been returned to the dark green with white trim of earlier times, the beautiful hardwood paneling has been restored and a bust of the founder, Heinrich Ernemann, is now in the lobby of the building. Over each of the office doors is a large brass inlaid Ernemann trademark of a camera shutter.

The city of Dresden is trying very hard to bring the museum to life but there are little surplus funds for it. However, the museum does house several interesting technical exhibits including photography, and it is well worth a visit.





**The Kiev whose front plate is shown on our cover.** This camera, number 48691, was apparently assembled from parts brought from Dresden around 1947, as is shown by the "Contax" logo still visible on the rear side of the front plate. (Photographs by Peter Hennig.)

In November 2000 it hosted a colloquium on the history of Zeiss Ikon.

### Jena

I could find no records in Dresden to speak of, but when I visited the Carl Zeiss archives in Jena, I did find some solid data. The information mostly concerned the post-war activities of the Russians in taking the assets of Zeiss Ikon and Carl Zeiss to begin their own optical and camera industries. On my return I reviewed past articles by ZHS member Sam Sherman, both here in *Zeiss Historica* and in other publications. Because I now had very specific Contax and Kiev information from the archives in Jena, I reviewed my conversational notes and letters exchanged with the late Zeiss Ikon designers, Hubert Nerwin and Hans Padelt, both of whom had come to the US after the war. I have reviewed the other known books on the subject and some of Bernd Otto's and Kurt Jüttner's work (in German). The history of the Jena Contax has been very elusive but much clarity has been added by Jüttner; he has tabulated all his

sightings of Jena Contaxes over the years, and it gives us a better idea of how many variants might exist. There seem to be as many variants as there were of the Contax I. Copies of Jüttner's Table are supplied as supplements to this issue of *Zeiss Historica*. We thank him for agreeing to share this information.

Now, I submit the following summation of the facts, as I understand them.

### The Contax after the War

I will start with the Contax. The pre-war Contax production was done solely in the former Ica facility at 76 Schandauer Str. in Dresden. The Ernemann buildings were primarily used to manufacture amateur and professional cinematic apparatus and darkroom equipment. Production of the Contax II and III was greatly curtailed, starting in 1938 and during the earlier war years; almost all of the few cameras that were made went for governmental purposes.

In the last two years of the war, heavy Allied bombing of Dresden destroyed key parts of the Ica facility. Damage to

the Contax rangefinder production was so complete that it was not possible to continue without a complete reconstruction of the production line. The bombing was so severe that the company safe, located in the basement, was destroyed. In this safe all the models and drawings for prototypes had been kept. The production line on the upper floors could not be restored during the war.

In 1945, as part of their war reparations, the Soviet Union demanded that the production of Contax cameras be totally transferred to a factory in the USSR. This "new" camera was initially to be called the Volga. As a result of the transfer, Contax rangefinder production was forever ended in Dresden. It is not totally clear to me if this is was a condition of the reparation agreement, but the evidence certainly points in that direction. Otherwise, why would the Russians permit direct competition in a location that they controlled? One point that must be made is that this "confiscation" of the Contax appears to have been quite well conceived, because it was implemented as soon as the Russians





**The Ernemann Building** on Schandauer and Junghans Streets in Dresden, now the Dresden Technical Museum. Note the well-known tower on top. (Photo: L. Gubas)

came to Jena and Dresden. The management of the Zeiss companies understood their situation and immediately fell into line to accomplish the task.

Contrary to what has been claimed in prior writings, the Russians were quite specific and thorough in their demands. They demanded complete blueprints and technical drawings. In addition, because there was no Contax production line then in operation, they demanded that the production line be started in East Germany. This was to ensure the quality of the transferred materials and of the USSR's new camera. The line was to produce a certain number of Contax and other photographic products and accessories before the production equipment and materials would then be transported to the "Volga" factory. Zeiss Ikon supplied staff and materials to this end to Carl

Zeiss. Remember that Zeiss Ikon was a subsidiary of Carl Zeiss, and the Russians wanted Carl Zeiss to be their agent for producing the assembly line.

I was able to review a book thick with such detailed drawings that still exist in the *Betrieb Archiv Carl Zeiss (BACZ)* in Jena. It is a mixture of technical drawings down to each and every component part and part groupings. Each drawing is dated and most of them fall into the immediate postwar years, although there are just a few pre-war and war-time drawings. Most of these drawings are marked Carl Zeiss Jena but a few are marked Zeiss Ikon (Dresden). This seems to confirm the fact that this camera was not identical to the prewar Dresden Contax. I looked carefully through this collection of technical drawings and I did not see a bezel trademark design for the Kiev or the Volga,

but from the tenor of the accompanying documents I had clearly expected the name of the trademark to be "Volga" and not "Kiev."

The documents state that the production line was not in Jena proper but rather in Saalfeld, about an hour's drive from Jena. This would be the site where the Werra cameras from VEB Carl Zeiss Jena would later be manufactured. It would seem that the Jena Contax, the associated lenses and the accessories were all manufactured there. It is my strong belief that these Contax cameras from the pre-Kiev production in Saalfeld are the ones that came to be known as the Jena Contax. (See C. Barringer's article, *Zeiss Historica*, Spring 1999, pages 9–12.)

As early as November 1945, the Russians stated that they wanted Carl Zeiss (not Zeiss Ikon) to provide them with sufficient knowledge, technical drawings, and instruction for the installation in Kiev. The production machinery and design process were to be designed to produce 5,000 cameras per month in that Ukrainian location. They required eight complete sets of drawings and a set number of complete samples of the camera and each of the lenses and accessories.

For the specific lenses that they wanted to manufacture they requested the same number of drawings and samples. The lenses and accessories named in the Soviet requirements are listed in the Table on page 20.

According to detailed research by Charles Barringer, the rare Carl Zeiss Herar lens for the Contax appears to have travelled with this material or was sold almost exclusively to the countries associated with the Eastern bloc, but there was no interest in manufacturing it. Not all of these lenses ultimately appeared to be manufactured in the Soviet Union, but the plans were supplied in any case.

The managers in Kiev also wanted the universal finder, the Flektoskop, and most Contax accessories as well as projection and darkroom equipment. Now, it is not clear that they finally decided to make each and every one of these items; in fact, the evidence suggests that they



did not. Based on the clear organization of the taking of the reparations and the Germans' acceptance of it, the general process seems to have been done as planned and to a schedule. The stories of equipment rusting in train yards in various Russian and Polish locations seem to be apocryphal, at least in respect to this camera.

Other products were demanded as well. They included reproduction devices, cinematic cameras and projectors, darkroom equipment and a certain amount of slide-projecting apparatus. The process was overseen by a Russian officer, a Major Turügin.

It is clear that Zeiss Ikon in Dresden never again manufactured a rangefinder Contax and, instead, concentrated on the newly designed Contax SLR as finalized by Wilhelm Winzenburg, based on the work of Hubert Nerwin and others in 1938–1946. Winzenburg was not himself a member of the prewar camera-design team for Zeiss Ikon. In the prewar years, he was the leader of a team that designed darkroom equipment. The swift construction of the Contax SLR suggests that the tool and die manufacturing facility in the old Wünsche plant located in Reick, on the outskirts of Dresden, was not damaged or was able to be activated soon after the end of the war. (Wünsche was a pre-Zeiss Ikon and pre-Ica company.) Before the war Zeiss Ikon had used this location to manufacture almost all the machinery, tools and dies for its own assembly lines. I have been fortunate to find two different catalogs devoted to this unfamiliar line of Zeiss Ikon businesses.

According to a 26 February 1946 internal memo, the Saalfeld works were instructed to make cameras at an accelerated rate: 300 each in September and October and 500 each in November and December 1946; 700 in January, 800 in February and 600 in March 1947. This same memo shows specifically which machines, by type and number, were to be transported to Kiev. These numbers total 3800; the actual production of Jena Contaxes could have been lower or higher.

So the Saalfeld location did construct

Contax D

*Noch vielseitiger*

wird die „CONTAX D“, wenn sie in Verbindung mit den bequemen und zuverlässigen Ergänzungsgeräten benutzt wird: Für Blitz-, Nah-, Lupen- oder Mikroaufnahmen und auch für Reproduktionen stehen dem „CONTAX“-Besitzer Geräte zur Verfügung, die der besonderen Verwendung angepaßt und zweckmäßig konstruiert wurden.

**ZEISS IKON** VEB ZEISS IKON DRESDEN

The “versatile Contax D,” in an advertisement from VEB Zeiss Ikon in Dresden. The logo includes the so-called “Ernemann tower” visible in the photograph opposite.

the Jena Contaxes, and the facility was moved in its entirety to the “Volga” plant in Kiev. Then, the East German authorities devoted their resources to restocking Carl Zeiss locations in Jena and Saalfeld after the “Demontage,” when 98% of all the production equipment in every factory was physically taken to the Soviet Union. Dr. Hemscheidt was a prominent participant in this process, although he headed the Zeiss Ikon plant at the old Goerz locations in what was West Berlin. I found a telegram from Heinz Küppenbender, the director of Carl Zeiss Oberkochen, regarding the “Kontaxgruppe” that shows he was fully aware of these activities. The telegram specifically says to get on with supporting other Zeiss products and forget about manufacturing the Contax rangefinder in Dresden.

A good number of Carl Zeiss and Zeiss Ikon technicians and managers were taken to Kiev to assist the startup of the new operation. I did not find any direct indication of whether Winzenburg was taken to Ukraine, remained in Dresden or came to Jena. Remember, while Zeiss Ikon was a subsidiary of the Carl Zeiss firm, it was run independently of Carl Zeiss Jena. Their records were separate, and the only correspondence between them on such things as lens design, optical finders and how their cameras would be used on microscopes or telescopes would have been retained in the firm’s records. Unfortunately, I did not have time enough to get into those matters on this trip.

So, the Kiev began to be manufactured in the “Volga” factory as scheduled in 1947. The name “Kiev” was used instead of Volga. Many of the



early Kiev cameras were clearly marked Contax originally. This means that the transfer to Kiev from Saalfeld included the stock of individual components of many of the cameras. These had already been prepared for assembly in Kiev by the trainee craftsmen from the Soviet Union under the tutelage of the German technicians who were taken there. Indeed, many of the early Kiev lenses seem to have serial numbers in the same series as Carl Zeiss Jena lenses.

The new Contax SLR camera from Zeiss Ikon in Dresden was able to come to market in almost this same time frame because Dresden had the asset of the Reick factory to produce the assembly lines. However, the West German products from Zeiss Ikon Stuttgart were far behind. There the designers had to go forward without technical drawings, and they started the design of the camera, the tools and the production line from the very beginning. Remember also that they did not have the Reick plant to supply the components or the tools as they had before the war. Zeiss Ikon Stuttgart had to deal with other suppliers in the most difficult days after the war when materials were scarce. These suppliers were not as dedicated to Zeiss Ikon as Reick had been, and so there was no prior association or experience. In addition, Stuttgart had not made any 35mm cameras before the war; their main products were the roll-film cameras such as the Nettar, Ikonta and the Super Ikonta. They had to re-supply the Berlin locations of Zeiss Ikon.

The Contax IIa and IIIa came several years later in 1951. After a few more years, the new Contaflex 35mm SLR came as well. These were very successful product lines—in the case of the Contaflex, in spite of its technical limitations.

The Stuttgart Contax had a modified metal shutter similar to the prewar version but improved. The small 35 Ikonta/Contina/Contessa cameras came to market first and were designed in detail by Nerwin before he left for Rochester, NY in 1947. These cameras clearly show the design elements of a

Lenses planned  
for manufacture in Kiev

Biogon	f/2.8	3.5cm
Sonnar	f/2	5cm
Sonnar	f/1.5	5cm
Sonnar	f/2	8.5cm
Sonnar	f/4	13.5cm
Sonnar	f/2.8	18cm
Sonnar	f/4	30cm
Fernobjektiv	f/8	50cm
Tessar	f/8	2.8cm

typical Nerwin camera: compact, fitted nicely to the hand and innovative in construction.

It is clear that there were significant internal differences between the prewar Contax and the Jena Contax, and in the resulting Kiev as well. From the exterior there are few changes to be seen, but I found that there are differences internally based on a review in Jena and the drawings made before starting the new production line.

I found an accounting of which Carl Zeiss properties were sent to the Soviet Union; this list, sent to the East German authorities, was to assist them to replace the removed equipment and restart the businesses as new in Jena and Dresden. However, at the same time, I know that the West German Carl Zeiss was sending specific machinery from locations in the non-USSR Allied Zones to Jena and Dresden. This was mostly from the Winkel location in Göttingen and the Hensoldt location in Wetzlar. I would expect that the Zeiss Ikon Reick facility was active in East Germany and was able to supply to both companies. I am not certain that the other Zeiss-owned firms in what was to become West Germany were able to help. These were Deckel (Compur) in Munich and Gauthier (Prontor) in Calmbach. They could have supplied such equipment but I presume that they were looking for paying customers as well. These shutter-making firms also were very active in the manufacturing of machine tools. It should be noted that Deckel had also

suffered significant bomb damage.

In the two recent books on this camera (Peter Hennig's *Historien Om Contax* in Swedish and Minoru Sasaki's *From Contax to KIEB*) there is information that has not appeared in these pages before. Most of it deals with the internals of the early Kiev cameras. As I have stated there are distinct internal differences among the early Kievs. Some reflect the parts of the Zeiss Ikon Contax but most reflect the Jena Contax. Presumably parts from Zeiss Ikon Dresden were sent to Jena and used there as training materials for the Russian technicians either in Saalfeld/Jena or in Kiev. The differences can best be seen in the pictures in these two books and reproduced on the cover of this issue of *Zeiss Historica* of the dismantled front plate of a Kiev. It is not the familiar Kiev with both Cyrillic and Latin letters nor the block Cyrillic print (КИБ) but rather a script version that was new to me. On the internal side of the front plate, it is clear that the Contax trademark had been there well before the Kiev one. However, it seems that many Dresden parts were used up into 1948. If we want to carry Hennig's analogy forward we can call some of the early cameras from the USSR "Dresden Kievs." Many activities are possible, from the use of cameras as training vehicles in both places to the judicious use of every single available part in the era of scarce raw materials. It is clear that this materials shortage led to many strange cameras and lenses during and immediately after the war. However, another point of interest from Hennig is that the relationship between his native Sweden and Germany during the war years was different from any other. The Swedes made the best ball bearings at that time and they had ample iron ore. As a result, there was open trade between the two countries, and the Swedish market was able to buy almost anything from Germany. Hennig says that it was possible for a Swedish citizen to buy a new Contax II camera with the wartime T coated lenses during the war up until 1946.

The Carl Zeiss records also indicate that the Russians wanted other products



as well. There was the movement of Carl Zeiss microscope facilities to the huge Leningrad optical and mechanical firm known as "LOMO" (for its initials in Russian). This factory was previously the State Optical and Mechanical Factory (or "GOMZ," for *Guzardsky Opticheskiy i Mekhanicheskii Zavod*) that produced Zeiss binoculars for the Russian army before 1914.

I know that famous Zeiss scientist Dr A. Sonnefeld spent five years in Russia building a facility for astronomy. The Zeiss Ikon specialist in photocells, Paul Görlich, also spent five years in the Soviet Union and returned to work in Jena and not in the Dresden photographic *kombinats*. Clearly, there were binocular manufacturing locations in the USSR that were aided by the reparations from Carl Zeiss.

The lens designs were pretty static in the years immediately after the war because most of the world famous Carl Zeiss designers went their separate ways. Ludwig Bertele had moved to Steinheil in 1943 and left Germany to go to Wild in Switzerland in 1945. Robert Richter and Willy Merte went to Heidenheim with the US Army. Soon after, Merte and several of the lower-level designers accepted American military contracts to go to the US. Ernst Wandersleb was quite advanced in years and had been forced out of the Zeiss plant in Jena since before the start of the war because his wife was Jewish. Hans Sauer became the leader in West Germany and soon began a new era of greatness for Zeiss in lens design (see

### Source Documents

I am willing to send copies of the 14 pages that I brought back from Jena to interested members. Please send me a large self-addressed stamped envelope and \$1 to cover copying charges. (Remember that these will be second-generation copies.) —LG

the Kämmerer article in this issue, pages 2 to 5). A new personality, Harry Zöllner, who had earlier apprenticed at Zeiss, returned to Jena from a position with Voigtländer after the end of the war to become the long-term head of Carl Zeiss East German lens design.

I found no documentation on the movement of the Super-Ikonta-like camera named the Moskva to the USSR. However, the Reick plant would have had all of the blueprints and materials to transfer. Apparently Zeiss Ikon Dresden did not try to duplicate the Super Ikonta, which supports the idea of "no conflict of business with the Russians."

I welcome any additional information that anyone might have on this subject. I still highly recommend Minoru Sasaki's publication (*From Contax to KUEB*) which I reviewed in the Fall 2000 issue of *Zeiss Historica* to see the best definition of these cameras and their differences.

### Conclusion

Zeiss Ikon Stuttgart was able to resume production of the bellows-style cam-

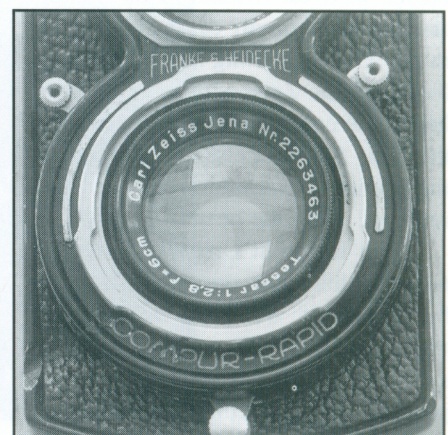
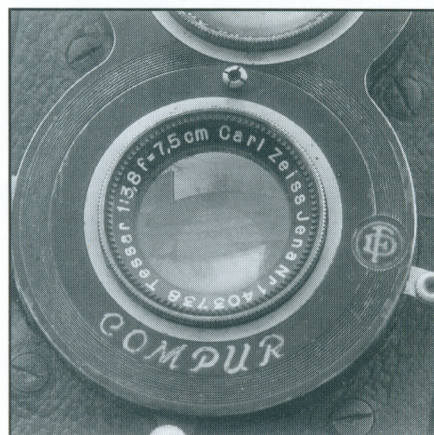
eras, such as the Ikonta and Super Ikonta, rather quickly and, within three to four years, of the bellows-based Ikonta/Contina/Contessa family as well. The new Contax IIa and IIIa cameras were brought to market in 1951, and a few years later they were followed by the Contaflex SLR.

Zeiss Ikon Berlin was able to produce the Box Tengor and the Ikoflex cameras and to resume the production of key/lock security systems and calculators in the late 1940s. Zeiss Ikon Dresden handed off the Contax rangefinder camera to Carl Zeiss Jena, who in turn handed it off to the Arsenal factory outside of Kiev in 1947. In the Reick facility a production line was set up for a bellows camera very similar to the Ikonta named the Ercona, and production of the pre-war 35mm Tenax I camera resumed there with a newly formatted f/3.5 Tessar 37.5 mm. The SLR Contax was produced originally using the Zeiss Ikon logo, and after the 1954 West German court verdict (where Dresden lost the ability to use that trademark), they moved to the Ernemann tower logo with the letters ZI; later the ZI was dispensed with. The Contax trademark was also lost in 1954 but was used in certain parts of the world and not in others. This Contax trademark was changed to Pentacon, which stood for "Pentaprism Contax."

I thank the many people who contributed to this new information and I welcome any other pictures, data or opinions in this very interesting area of Zeiss history. □

## Lichtstrahlen...

Two versions of the Zeiss Tessars used on Rolleis by Franke and Heidecke bore uncommon specifications. **The photo near right** shows a Tessar of f/3.8 maximum aperture fitted to a veteran lever-wind Rolleiflex of circa 1933. **The photo to the far right** shows a closeup of a Zeiss Tessar with the unusual focal length of 6cm mounted on a 4×4cm format Sports Rolleiflex of 1938, a scaled-down and rarely encountered version of the normal Rollei. *Joseph K. Brown*





# Hensoldt but not Hensoldt

Larry Gubas, Randolph NJ

Since my earlier articles on the history of the Hensoldt firm, I have come across several interesting items that were unexpected. It seems that there was a second Hensoldt firm after World War II in Wetzlar. This firm had no direct business connection with the Carl Zeiss Stiftung firm founded by Moritz Hensoldt. Hans Hensoldt, grandson of the first firm's founder, was responsible for this new firm.

Hans Hensoldt had been a member of the board of directors of Hensoldt & Söhne AG from 1930 to 1945. It is clear that he had been a vigorous supporter of the Nazi party, which was a real problem for restarting the business after the war. The Allied powers placed him in an internee program from April 1945 until the middle of 1946. This "de-nazification" was usually held near Wimbledon in Great Britain. This situation and process certainly caused difficulties in the firm's restarting after the war. At this time, the Zeiss Stiftung in Heidenheim took control of the management of the firm. As Carl Zeiss Oberkochen was the primary stockholder, Hensoldt was removed from the board.

Upon Hensoldt's return, he decided to open his own optical firm in his hometown of Wetzlar. He opened it under his own name as Dr Hans Hensoldt GmbH. He would make two major product lines, binoculars and cameras.

His cameras were quite interesting

and seem to have been made during the 1950s. I can trace the cameras to 1953, but the company seems to have been closed in 1959-60. There appear to have been only two cameras, which were made in a very high style, very similar to certain Italian cameras of the day. Hensoldt developed a new lens-cell trademark bearing his name that contained three lens elements. These cameras are quite rare today, and seem to have been sold solely in Europe. There are two models known to me that are almost identical in appearance. The Standard had limited shutter speeds from 1/20 to 1/1000 second with a B setting, while the Reporter ranged from 1 to 1/1000 with T and B settings. The Reporter had a rapid advance system in the base of the camera, much like the Leicavit. Both cameras used a cloth focal-plane shutter with provisions for M and X flash synchronization. There was also an impressive series of interchangeable lenses, as listed in the Table below.

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Lenses for the Hensoldt

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ladar	f/3.5	5cm	DM 115
Iriar	f/2.8	5cm	DM 168
Arion	f/1.9	5cm	DM 280
Angular	f/3.3	2.8cm	DM 180
Aglar	f/2.5	8cm	DM 345
Iriar	f/3.5	1.25cm	DM 360

---

The price without objective was DM 280 for the Standard and DM 360 for the Reporter. Sales prices for these cameras in the German auctions over the past few years has been well over \$1,000. There is some evidence that an American named Robert Dowling was the financial backer of the enterprise, which was located at Garbenheimer Straße 15 in Wetzlar.

I cannot be sure if this new firm manufactured binoculars before closing. I do know that Zeiss was not happy with his use of the trade name "Hensoldt." He reopened again under the brand name Dr. Hans Hensoldt Wetzlar KG. However, this time he was a marketer for other firm's products using his name. I have seen a number of different trademarks, but none that I can picture here since I lack an example that can be reproduced. The major one seems to be a small H mounted on the bar of a larger H. The full name seems to appear on the products.

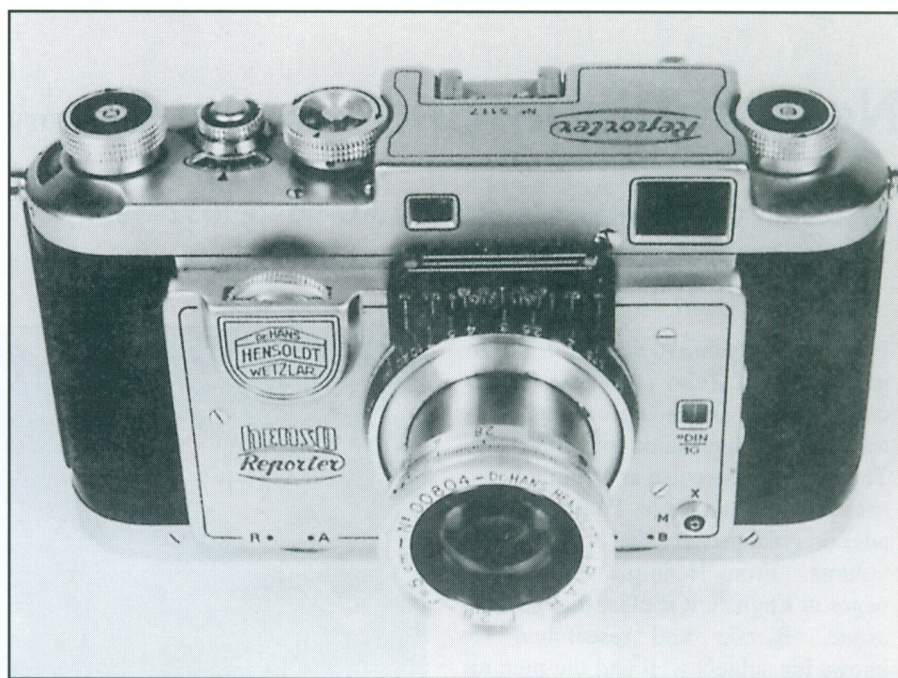
Because the roof-prism patent had long expired, this was the predominant binocular design of the new firm. Several samples have appeared on the international auctions with a trademark different from the familiar roof prism of the original firm. The construction seems to be of good quality. The major suppliers appeared to have been the firms of Friedel Carl Hoffmann of Garbenheim and Walter Roth, Oed. The



firm used the trademark "Optolyt" and it was sold to Walter Roth after Hans died in 1964. Most of these binocular products were sold in optical shops and mail order houses and they do not seem to have been exported. The marketing of these binoculars apparently ended in 1964–5 when Zeiss bought the full ownership of the original Hensoldt firm.

It was about this time that the Hensoldt trademarks were discontinued in favor of Zeiss trademarks. Zeiss discontinued their binocular production in Oberkochen, but the Hensoldt trademarks are still used on military and certain industrial products. However, the modern buildings in Wetzlar still bear the Hensoldt name, the firm exists as a subsidiary of the Carl Zeiss Stiftung, and specialized product catalogs are produced using the name. They make many components for the Hasselblad camera including the prism housing.

If anyone has additional information or samples of the trademarks, please let me know. □



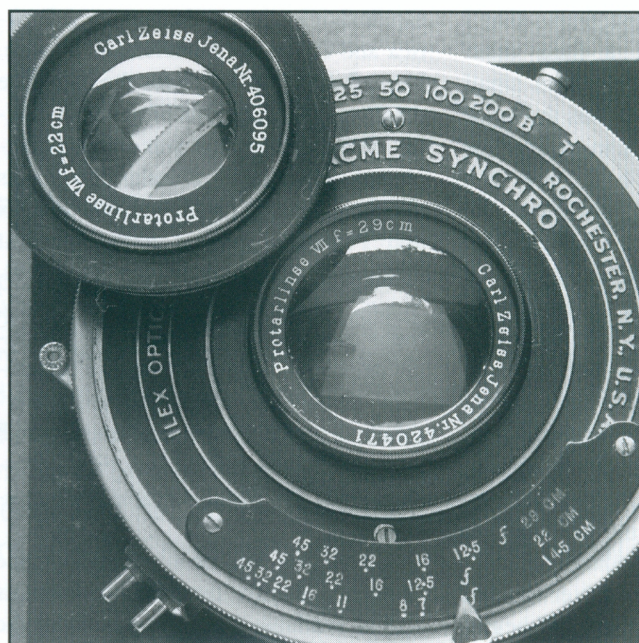
**A Hensoldt Reporter** from about 1953, with a f/2.8 50mm Iriar no. 00804. The body number is 5117. This reproduction is from a Cornwall auction catalog dated April 1992. (The catalog reports that the shutter, nominally 1 to 1/1,000 second, "hangs" at its slowest speed.) The camera fetched DM2,200 at auction.

## Lichtstrahlen...

The **Zeiss Convertible Protar** has at times been a favored lens of professional photographers, its best known protagonist being Ansel Adams who used it regularly in the pre-World-War II years. It consists of a pair of cemented quadruple elements arranged symmetrically ahead of and behind a central stop, a configuration that allows the photographer to select three focal lengths from a single system: one focal length from both components together, another from the front cell alone and still another from the rear component by itself.

This Protar (photo right) in a handsome black and nickel Ilex synchro shutter from the 1940s is shown with the front and rear cells separately. Note the triple f-stop scale, a measure of the versatility of this high-quality Zeiss objective.

*Joseph K. Brown*





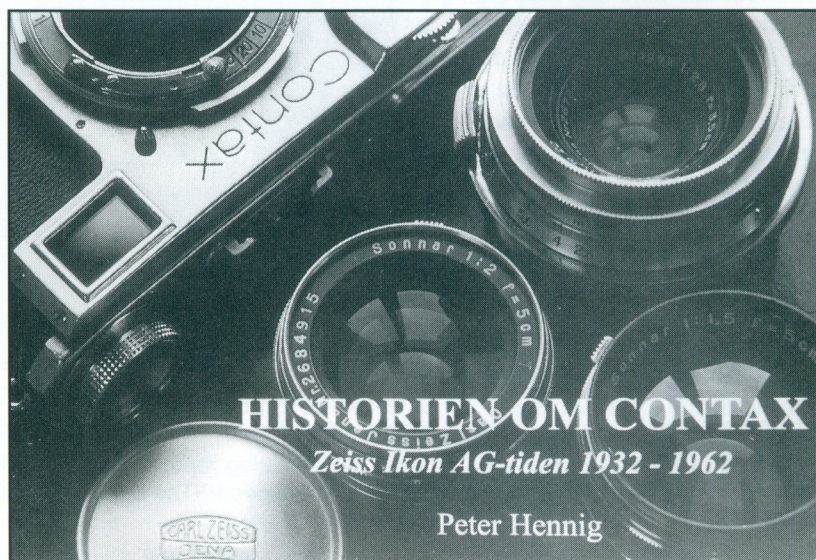
## New publications *(Reviewed by Larry Gubas)*

### Historien Om Contax (Zeiss Ikon AG-tiden 1932–1962)

Peter Hennig, 68 pages

It seems as if the whole world is now enamoured of Zeiss Ikon and Contax cameras. We are seeing original work appear in a multitude of languages. This one is in Swedish and, while I cannot read that language, I love the rare ads and great pictures that appear in this volume. From Hennig's work in our pages in English, it is clear that he is an astute observer and researcher. He knows his subject well and the pictures of very rare items make me feel very secure in his knowledge and expertise.

Interested parties may contact LP FOTO AB, Rådmanngatan 39, 11 58 Stockholm, Sweden. The price is 350 kr (currently about \$35).



### Spiegel-Contax

Alexander Schulz, 103pp

This is one of the nicest books that I have come across in a long time. Everything is well done. This small format hard-covered book has the highest quality paper and the most interesting illustrations that I have seen in a long, long time. *Spiegel-Contax* (or "Mirror-Contax") is a wonderful exploration of the history and components of the Contax Single-Lens-Reflex camera that was developed at Zeiss Ikon Dresden over the period of the late 1930s to its debut in various photo fairs and its availability to the public in September 1949. Alexander Schulz was able to meet and correspond with Siegfried Böhm who, after being wounded in World War II, had come back to Dresden to work with Hubert Nerwin and the rest of the Zeiss Ikon staff beginning in 1943. He was later to work as

the design leader on the post-war Praktica and Praktiflex cameras in Dresden. Here, Schulz publishes for the first time detailed considerations of the SLR Contax design during the war years as discussed with Böhm. Schulz then covers the development of the various Contax and Pentacon models with excellent illustrations and simple instructive text. Since the reunification of Germany, these cameras have become very popular items that were and still are uncommon here in the US. They were certainly groundbreaking cameras, which became models for the late 1950s blossoming of the now-dominant SLR cameras.

This book has been printed by the famous Stuttgart firm of Lindemanns and is available from them or from the American bookseller, Petra Kellers.





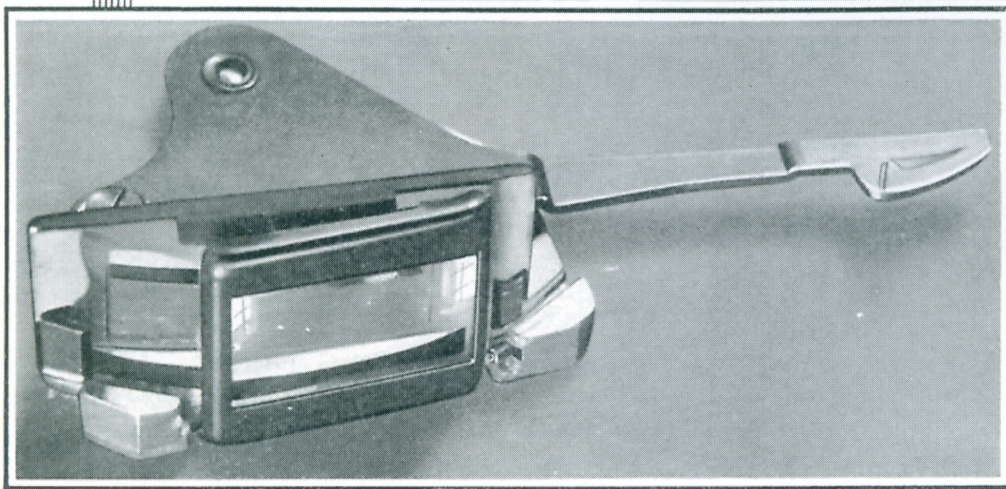
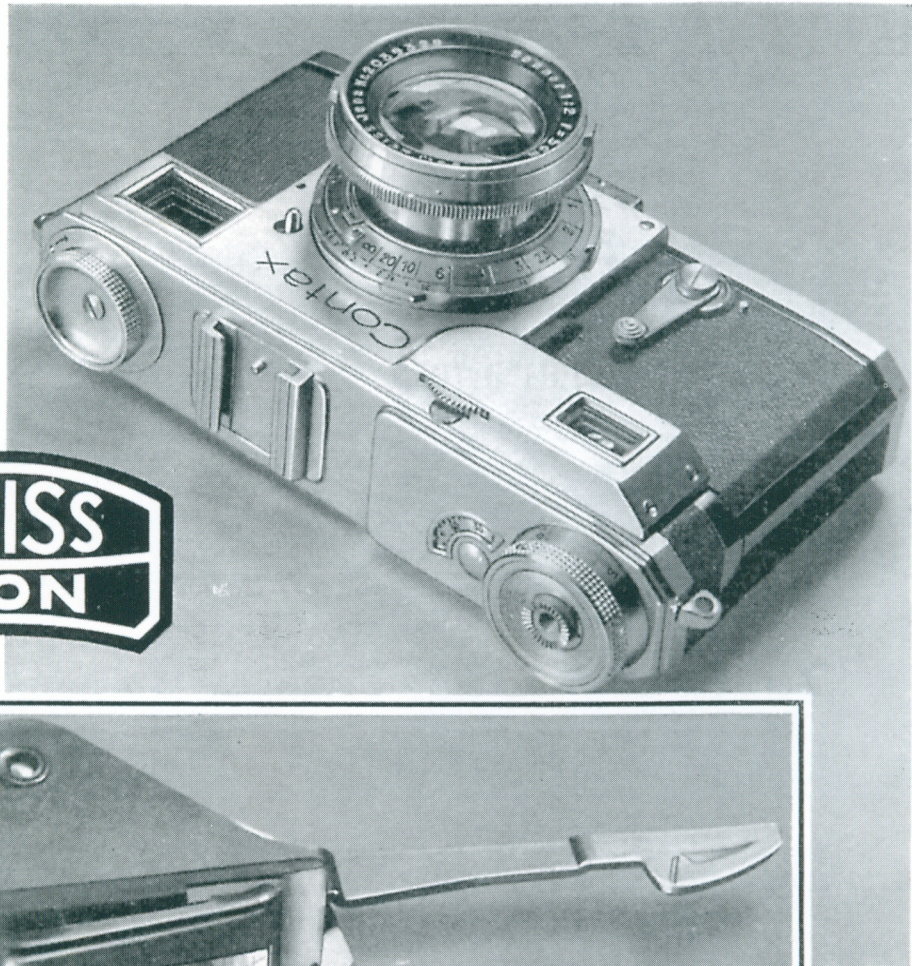
**Back Cover:**

To provide a competitive edge over the Leica, Heinz Küppenbender designed a long-baseline rangefinder for the Contax, with a pair of rotating wedges coupled to the lens mount and having the viewfinder and rangefinder windows combined. In this advertisement from the April 1939 issue of *Miniature Camera World*, Zeiss Ikon shows details of the rangefinder and proudly lists the advantages over the camera's unnamed competitor. (*From the collection of John Baca*)



**DO YOU KNOW  
THE CORRECT  
WAY TO HOLD A  
'MINIATURE' ?**

If you are doubtful,  
you should see page  
24 of "The Miniature  
Camera at  
Work," 3/6, obtainable through  
Zeiss Ikon dealers.



## ***Two sliding wedges . . .***

form the basis of construction of the combined distance meter-viewfinder on the Contax. The wedges (lower illustration) consist of two cylindrical lenses, and the sliding action which takes place when focussing with the distance meter is automatically transferred to the lens focussing mount. It is thanks to this sliding wedge construction, only to be found on the Contax, that the fields of both distance meter and viewfinder have been combined without necessitating an increase in the size of the camera body.

Still further advantages are given by the sliding wedge system. The robust construction guarantees real accuracy and renders the camera immune from damage by shocks or jolts occurring in the course of reasonable usage. Extremes of temperature or humidity do not impair the accuracy which is such that wide aperture long-focus lenses can be focussed with the absolute assurance of needle-sharp pictures.

## **CONTAX**

*Write for a copy of the 120-page "Contax Photography" book, or, better still, ask your dealer for a demonstration.*

**ZEISS IKON, LTD., 92, MAIDSTONE HOUSE, BERNERS STREET, LONDON, W.1.**