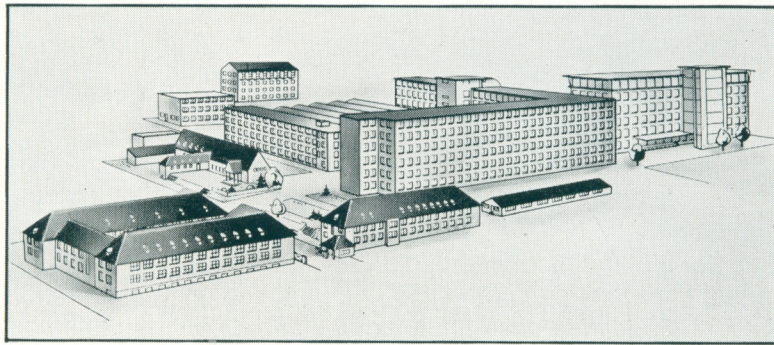




**THE HISTORY OF
CARL ZEISS and ZEISS IKON**

CARL ZEISS, INC., 485 FIFTH AVENUE, NEW YORK 17

Carl Zeiss—a tradition in Camera craft is



*CARL ZEISS—
The Optical Works.
Main factory in Oberkochen,
West Germany*

JENA is a town of medium size in Thuringia, a colorful part of Germany often called its “green heart.” Among Jena’s outstanding 19th Century citizens were Carl Zeiss, and a man who helped make the name Zeiss a camera byword throughout the world.

Ernst Abbe, who went into partnership with Zeiss 90 years ago, is regarded as one of the outstanding physicists of his time. But his scientific genius accounts for only part of his fame. To Abbe belongs major credit for the great commercial success of the Zeiss enterprises. He was a master at transforming scientific findings into manufactured products and at designing products to fill real needs. Abbe had the gift of inspiring the people who worked under him, and he ultimately rewarded their faith by creating a new form of business organization—the industrial foundation.

In 1899, shortly after Zeiss died, Abbe founded the Carl Zeiss Foundation. He transferred to it a huge fortune consisting of the laboratories and manufacturing plants bearing the name of Carl Zeiss, as well as his personal holdings in the Jena glass works of his friend, Otto Schott.

Behind Abbe’s action was a revolutionary social idea: that the worker in a factory should not be dependent on the whim of his employer. He felt, on the contrary, that it was necessary to erect a barrier to protect workers against wilfulness on the part of the owners or managers of industry. Instead of leaving the form of this protection to the good will of future owners, he preferred to resort to law.

To carry out his idea, he gave the foundation a statute that created the general framework of the Zeiss and Schott enterprises. It required their profits to be used for social and scientific purposes and for the common good. It also spelled out in great detail the rights and obligations of the directors and employees of the Foundation. In the rights guaranteed to workers, Abbe’s statute anticipated many industrial reforms of the next half century.

In the decades that followed, the Carl Zeiss Foundation and its cameras, lenses, and scientific apparatus gained

international fame. Carl Zeiss became the biggest supplier of optical goods in the world. After World War II, however, Central Germany was occupied by the Red Army and the Foundation came very near to extinction. In 1946, about 94 percent of its machinery and equipment was dismantled and shipped to Russia.

Just before the Russians moved in to begin their dismantling operations, however, the U. S. Army had brought the top management of the Zeiss factories—the leading scientists, technicians, and executives—to Heidenheim, in the Western Zone.

This team of management-in-exile laid claim to all properties belonging to the Zeiss companies that were located in the free world. It also transferred the seat of the firm—and the Foundation—to Heidenheim. A new factory, erected in nearby Oberkochen, now employs over 4,000 people.

The rulers of the Soviet Zone were not content with physical possession of the Jena works. They wanted also to profit from the prestige and good will associated with the name of Carl Zeiss. Claiming exclusive rights to all Zeiss trademarks, they brought suit against the Heidenheim Foundation. Several courts, both in the German Federal Republic and abroad, have since decided against the claim. As legal matters now stand, the Western world pretty much agrees that the name and trademarks of Carl Zeiss belong solely to the firm now located at Heidenheim—and not to the state factory at Jena. Needless to say, the Communist world has a different view.

When the Zeiss factory was being transferred and rebuilt in the West, high-class German cameras were in such great demand throughout the world that management decided to concentrate its first efforts on producing camera lenses. It seemed easiest to get this single type of product into quantity production in a relatively short time, and with it to reestablish the Zeiss name in far-flung markets.

The photographic division of Zeiss, though eager to turn to new items, faced many difficulties getting into production. Shortages of trained workers and of specialized instruments and machinery limited the rate of output.

born again in a new West German home

Further limits were set by a company policy to market only those lenses that were at least equal to Jena's pre-war standards. Computing and testing processes presented few serious problems, since the very scientists who had set up the systems at Jena were in charge of the same operations at the transplanted factory.

The modest production enforced by circumstances in this early postwar period proved to be a blessing in disguise. Starting virtually from scratch, Zeiss technicians were able to incorporate many scientific improvements and plan new production facilities to the latest and highest standards.

And while the first years of peace were spent in catching up and filling the huge backlog of demand for then-current lens types, it was possible, simultaneously, to lay the groundwork for the next stage. A vast amount of scientific work on lens design was refined and coordinated with a view to introducing improvements into the manufacturing process.

Advances in lenses and lens technology take many forms. The general public is most likely to notice progress only when the number of lens elements is increased (for example, the Sonnar 85-mm $f/2.0$ and the Biogon 35-mm $f/2.8$ now have 7 elements), but other factors may be equally important.

One such factor that has had very favorable consequences has been a change in the specifications set by camera manufacturers. Before the war there was a great demand for "universal" lenses—that is, production-type lenses that could be used for different negative sizes. The more recent trend has been toward lenses computed for specific applications. This has made it possible for designers to concentrate on building lenses to meet specific requirements. They have been able, too, to eliminate much of the correction that is necessary on universal lenses. Newly developed optical glasses—especially those of high refraction value—made possible still further improvements. For example, the Tessar 80-mm $f/2.8$ now has a flatter field and less zonal aberration.

While older lens types were being improved, considerable development work was carried out on newer models and in 1953 the Topar 210-mm $f/4.0$ lens for 5x7 aerial cameras appeared. In it, deficiencies were reduced 60 percent below the theoretical "ultimate" in lens correction before the war.

The year 1954 brought the new Planar, a refinement of the "Gauss-type" lens first produced in the early 1890s.

Earlier variations of the same basic type included the high-speed Biotar lenses brought out by Zeiss in the 1920s. The new 5-element Planar, with a speed of $f/2.8$, bears a clear resemblance to the classical Planar as well as to the earlier Topogan. The new model, however, has a flatter field, and its spherical and chromatic aberrations and coma have been corrected to a high degree. All of which results in exceptional definition and contrast.

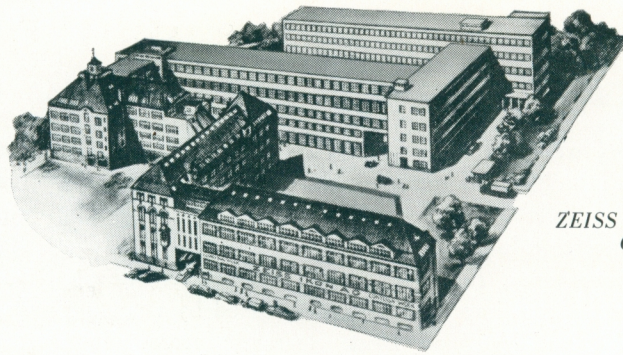
Aside from the $f/2.8$ Planars there is also a wide-angle, 35-mm $f/3.5$ made for the 24x36-mm Contax. This lens is noted for extremely sharp and brilliant pictures; it is surpassed by the 35-mm $f/2.8$ Biogon only because of the latter's higher speed and exceptional brightness of screen illumination.

At the same time it announced the new Planar, Zeiss brought out a new $f/4.5$ Biogon computed by Bertele. It has an angle of 90° and is supplied in 21-mm, 38-mm, and 53-mm focal lengths; these are designed, respectively, for film sizes of 24x36 mm, $2\frac{1}{4}\times 2\frac{1}{4}$ ", and $2\frac{1}{4}\times 3\frac{1}{4}$ ". In speed and illumination of field, the Biogons are said to surpass equivalent wide-angle lenses previously available to amateur and professional photographers.

The Sonnar lens, famous for the $f/2.0$ and $f/1.5$ models that helped make history in miniature photography, recently acquired new brothers of the same name. These are mostly 5-element lenses of longer focal length and computed for larger negatives (135-mm $f/3.5$ for $2\frac{1}{4}\times 2\frac{1}{4}$, and 180-mm $f/4.8$ for $2\frac{1}{4}\times 3\frac{1}{4}$). The short barrel of the Sonnar is a distinct advantage with regard to shutter fitting and in overcoming vignetting.

The growing popularity of single-lens-reflex cameras has increased the need for lenses whose distance from the film plane is comparatively long in relation to focal length. With its 60-mm $f/5.6$ Distagon, Zeiss has created a wide-angle (65°) lens for $2\frac{1}{4}\times 2\frac{1}{4}$ negatives that has good correction although the distance from the film to the back element of the lens is much longer than the focal length.

And finally, it may be interesting to note that Zeiss has brought out a new Anamorphot for the projection of CinemaScope films. The principle—based on a cylindrical lens system—is well known. What is probably less well known is that the principle itself was discovered many decades ago by Ernst Abbe and his colleague, Dr. Rudolph. They also coined the name Anamorphot. In supplying movie theatres with wide-screen projection lenses, the present house of Zeiss offers a fitting memorial to its greatest pioneer.



ZEISS IKON's main factory in Stuttgart.
Other Zeiss Ikon factories in
West Berlin and Kiel

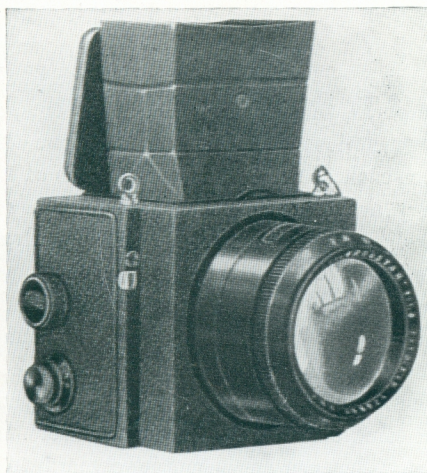
Zeiss Ikon—history of a famous name

WHAT'S in a name? The question is baffling at first in the case of Zeiss Ikon—but worth looking into.

The reader will say everybody knows that the names of Carl Zeiss and Zeiss Ikon are famous in a world where high technical and optical precision have become important tools of everyday living.

But whereas these are established facts, probably but few people would be able to define these words and what they stand for exactly.

If you use a photographic household word like "anastigmat", would you know that it originated within the firm of Zeiss? Dr. Rudolph found, in 1889, the formula for this type of lens which proved needle-sharp to the edges. It was this same Dr. Rudolph who in 1902 came up with the "Tessar" which is recognized, to this day, to be one of the foremost lenses ever to be developed for all-around photographic use.



Zeiss Ikon Ermanox, one of the first production cameras to sport a high-speed lens, featured the f/1.8 Ernostar.

There were famous firms using Zeiss lenses in those days: Contessa-Nettel in Stuttgart; Ernemann and Ica in Dresden; C. P. Goerz in Berlin. Older readers will remember these names with a feeling of nostalgia. And all of a sudden it will occur to them to ask themselves what happened to all those camera factories?

In 1926, they all merged into one big firm, pooling their technical know-how, marketing experience, and patents. The new firm was called Zeiss Ikon. The Zeiss part is obvious enough, for it was the big optical firm of Carl Zeiss which acted as godfather to this fairly big baby. Ikon is the Greek word for image.

The new firm had a big task ahead; to boil down a huge and varied camera program into a few easily marketable models, and to develop new types of cameras on a mass-production basis while retaining all the precision and craftsmanship which had made these German camera firms world-famous over the years.

One of the first sensational feats at the time was in 1927, when the first "available light" camera came out at Dresden, headquarters of the new company. It was the *Ermanox* (1 $\frac{3}{4}$ x2 $\frac{1}{4}$ plate) and sported an *f/2* Ernostar (changed to *f/1.8* shortly afterward), the first lens of that speed to be produced commercially. Dr. Erich Salomon used it to make his trail-blazing candid photos at the international conferences of that time, showing Briand, Stresemann, Chamberlain at work and at play. American magazines of the day gave big play to those pictures which ushered in a new era of journalistic history.

American photofans will probably remember the original *Contax I* camera (1932), which was the first child conceived by the new union: simple and without chrome trimmings, yet already equipped with metal focal-plane shutter capable of 1/1000 sec. speed, Zeiss Sonnar lens *f/2*, and coupled long-base range-

ZEISS IKON (continued)

finder. In 1936, the *Contax III* was the first camera to appear on the market with built-in photoelectric exposure meter.

Members of the younger generation know all about the later models, *Ikonta*, *Super Ikonta*, *Ikoflex*, and *Nettar*. They are familiar with the improvements which led to today's *Contax II-a* and *III-a* and, most recently, to the *Contina* and the *Contaflex*. They appreciate the wide range of accessories which allow one to make full and universal use of all the features which the designers incorporated in these cameras.

At the time of the merger, in 1926, *Zeiss Ikon* had taken over several works, the more important of which were situated in Dresden, Berlin, and Stuttgart. In the following years the number of products was cut down, production methods were streamlined and integrated, and each of the factories allotted its own specialty. The second world war interrupted this development. When the war ended, the situation had fundamentally changed. The main factories at Dresden were in the hands of the Soviet Zone. What remained of the machinery was dismantled and brought to Russia. Later the company was expropriated. In Berlin, only empty shells of buildings were left. Only the comparatively small Contessa works in Stuttgart had survived the war. They were, however, geared only to manufacturing a few special models which had been allocated to them and there were no administrative offices.

When the Dresden works had been expropriated, board and management decided to transfer the seat of the company from Dresden to Stuttgart, the latter city being located in the American Zone.

A new administrative center was built up there during the following years. Modern buildings arose and designers worked day and night on new models. The old and the new models of *Zeiss Ikon* cameras which were manufactured in Stuttgart after 1945, sold at first for the most part to U.S. soldiers, soon helped revitalize German export. Fortunately, the name of *Zeiss Ikon* had not lost its magic in the U.S. Demand continuously exceeded supply in spite of every effort to increase production.

In 1949, the new *Contax II-a* and *III-a* models appeared, with all the qualities which had once made their predecessors famous; fine finish, a metal focal-plane shutter with all speeds adjustable on one knob; coupled rangefinder-viewfinder of extreme precision; Zeiss lenses of various speeds and focal lengths, easily interchangeable by bayonet mount; self-timer for various preset periods; synchronization for all types of flash.

The latest product from the house of *Zeiss Ikon* is the *Contaflex*. The plans for a single-lens miniature reflex go back to prewar days in Dresden, but they had been lost, together with the Dresden plant. Now the camera, newly developed to maturity, was welcomed by amateurs and professionals alike. The automatic preset diaphragm, a new feature, shows the image ultrabright on the focusing screen up to the moment when the shutter release is pressed. Then, within a fraction of a second, the diaphragm closes down to the preset stop. The Zeiss Tessar $f/2.8$ has long been famous for its definition, both for color and black-and-white. Two rangefinders, operating independently, assure super-accurate focusing. (There is also a model with built-in photoelectric exposure meter.)

The *Contaflex* being a single-lens reflex, the picture in the finder never shows parallax, even when using Proxar lenses—thereby opening up the whole field of close-ups for *Contaflex* owners. It is not surprising that the *Contaflex* was an immediate success and won many new friends for the name of *Zeiss Ikon*. It brought a whole new field of photography within range of the amateur as well as the professional.

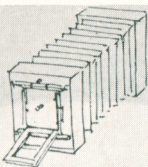
Apart from these highly specialized cameras, *Zeiss Ikon*, now as formerly, makes cameras in the usual sizes: *Super Ikonta* $2\frac{1}{4} \times 2\frac{1}{4}$ with a coupled viewfinder-rangefinder which is particularly appreciated by reporters and serious amateurs; the twin-lens reflex, *Ikoflex*, ($2\frac{1}{4} \times 2\frac{1}{4}$), and the medium-priced *Contina I-a* and *II-a*, which are meant for use by the average amateur.

As proof of far-sighted work for the future, the *stereo field* may be mentioned. For this purpose *Zeiss Ikon* developed, after a unique system, special accessories for the miniature cameras *Contax* and *Contaflex*. These cameras, through special attachments, show the two stereoscopic pictures within the one 24×36 -mm frame, i.e., each of these stereo pictures is of 18×24 -mm size. They are close together and remain so during all following steps. This is the unique advantage of the *Zeiss Ikon* stereo system.

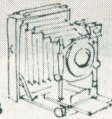
One can even snap, alternatively, stereo and normal-size pictures on the same roll just by attaching or removing the special stereo attachment. *Zeiss Ikon* also offers a special projector for its stereo system.

In the amateur movie field the novel *Movikan 8* system, which permits a movie camera to be held horizontally like a *Contax*, led to a big demand which is hard to satisfy.

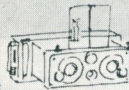
A new factory, built at Kiel, is devoted to the manufacture of movie equipment solely for theaters.



1862
R. Hüttig, Berlin



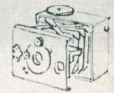
1898
Fabrik phot. App. AG.
vorm. R. Hüttig & Sohn
Dresden



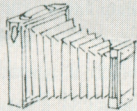
1895
G. Zulauf & Co., Zürich



1911
Contessa-Camera-Werke
GmbH., Stuttgart



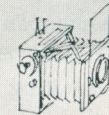
1908
Drexler & Nagel, Stuttgart



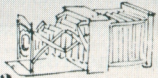
1889
Fabrik phot. Apparate
Emil Wünsche, Dresden



1897
Emil Wünsche AG.
Dresden

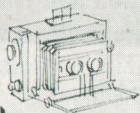


1909
Nettel-Camera-Werk
GmbH., Sontheim N.

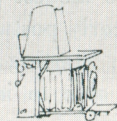


1902
Südd. Camera-Werk
Körner & Mayer GmbH.
Sontheim-Heilbronn

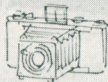
1912



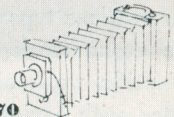
1900
Palmas AG., Jena



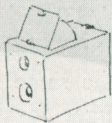
1889
Heinrich Ernemann
Dresden



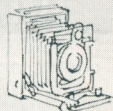
1902
Carl Zeiss
Abt. Palmasbau, Jena



1870
Ernst Herbst & Firl
Görlitz



1885
Dr. R. Krügener
Frankfurt a.M.

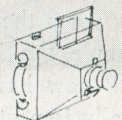


1909
Ica AG., Dresden

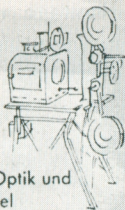


1919
Contessa-Nettel AG.
Stuttgart

1899



1886
Optische Anstalt
C. P. Goerz, Berlin



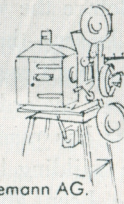
1871
AG. Hahn für Optik und
Mechanik, Kassel



1909
Goerz Photochemische
Werke GmbH., Berlin



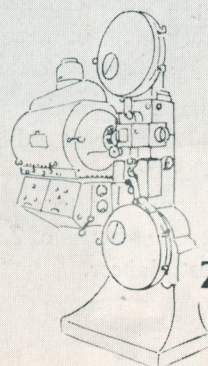
1898
Heinrich Ernemann AG.
Dresden



1903
Optische Anstalt
C. P. Goerz AG., Berlin

1927

1928



1926
ZEISS IKON AG.

