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**Paul Kolling**  
Nadir

27. Januar – 21. April 2024 / January 27 – April 21, 2024

**Werkliste und Referenzen /**  
**List of works and references**

## Treppensaal & Großer Saal

*Nadir*

2023/24

Konstruiertes Bild, belichtet auf 115,88 Meter 35-mm-Film, Loop, modifizierter Kinoton FP30-Projektor, 35-mm-Filmlooper, Python Code, Rückprojektionswand (3,87 x 5,8 m), Stahlseile / Constructed image, exposed on 115.88 meters of 35 mm film, loop, modified Kinoton FP30 projector, 35 mm film looper, Python code, rear projection screen (3.87 x 5.8 m), steel cables

## Treppensaal & Großer Saal & Kleiner Saal

*Nadir (Versatz)*

2023/24

Stoff, Stahlseile / Fabric, steel cables

Maße variabel / Dimensions variable

## Kleiner Saal (gegen Uhrzeigersinn / counterclockwise)

### Faksimiles / Facsimiles

#### Nr. 1

Anaglyphenbrillen als Heftbeilage zum Anschauen von Stereoskopischen Luftbildern /

Anaglyph glasses as a magazine insert for viewing stereoscopic aerial images

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, n.p.

#### Nr. 2

Werbeprospekt zur Firmendarstellung der Hansa Luftbild GmbH / Advertising brochure for the company presentation of Hansa Luftbild GmbH

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, S. / p. 5

Fig. 1: View into a stereoplanigraph room. A total of 12 Zeiss stereoplanigraphs are in continuous operation at Hansa-Luftbild, including a C/3 model that has been in use for 12 years.

Fig. 2: Detail of an equalization room. In the background two older devices that were already in use in 1926/27. Hansa-Luftbild currently owns 25 rectification devices from Zeiss-Aerotopograph, Jena.

#### Nr. 3

Werbeprospekt zur Firmendarstellung der Hansa Luftbild GmbH / Advertising brochure for company presentation of Hansa Luftbild GmbH

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, S. / p. 3

Aerial survey  
at Hansa-Luftbild G.m.b.H.,  
Berlin.

A look into the working rooms of a modern photogrammetric institute gives a better impression than words describing the extent of the work that aerial photogrammetry is capable of accomplishing when used in a planned and generous manner.

Hansa-Luftbild G.m.b.H. is the center of aerial photography in Germany and is one of the largest and most modern aerial photography companies in the world. Both the main department in Berlin and the various branches in all parts of the "Reich" can be regarded as model companies with their excellent facilities and modern organization.

The production of aerial photographs is regulated for the whole of Germany by the "Reichsgesetz" (law of the state) and transferred to Hansa-Luftbild for civilian tasks. An extensive fleet of aircraft is available for this purpose. The photographs are taken exclusively with aerial mapping systems from Zeiss-Aerotoptograph, Jena.

The clients for aerial surveys are various governmental and economic bodies: authorities, regional planning offices, housing associations, water management administrations, cultural buildings, municipal surveying offices, "Reichsautobahn" (state highway), industrial enterprises, etc. According to the tasks at hand, aerial plans or layer line maps are mainly required at larger scales.

In close cooperation with the "Reichsamt für Landesaufnahme" (National Office for Land Survey), Hansa-Luftbild is also involved in the production and continuation of the official German map series. The focus here is on the 1:5000 German base map, which is to form the basis for all smaller-scale maps in the future. This gigantic map series will comprise around 16,000 sheets and requires intensive use of aerial photogrammetry for its completion. In flat areas, the base map will be prepared for the time being as an image map by rectification, while in non-flat terrain it will be obtained as a layer line map by stereoscopic measurement. In addition to this work, the completion and renewal of the 1:25000 Ordnance Survey sheets, which are available for the entire territory of the "Reich," is in progress. Due to the extraordinary importance of this map series and the rapid changes in the landscape caused by major construction and remodeling measures, this task is also very extensive.

The evaluation of the aerial photographs is carried out either in the rectification department or the stereo measurement department, depending on the task and terrain characteristics.

#### Nr. 4

Darstellung des Nutzens der photogrammetrischen Vermessung am Beispiel der Ermittlung von Hausgrößen für Versicherungen und Banken / Presentation of the benefits of photogrammetric surveying using the example of the determination of house sizes for insurance companies and banks

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, n.p.

Nr. 5

Vermessungsergebnisse und ursprüngliche Aufnahme des Leutasch Tals, gedruckt auf transparenten Seiten / Survey results and original image of the Leutasch Valley printed on transparent pages

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, S. / p. 88

Nr. 6

Fehlerhaft extrahierte Höhenlinien als Negativbeispiel / Incorrectly extracted contour lines as a negative example

*Luftbild und Luftbildmessung Nr. 11*, Hansa Luftbild GmbH, Berlin, 1936, n.p.

Nr. 7

Rechenschema für Rückwärtseinschnitt für eine manuelle Rechenmaschine / Calculation scheme for backward incision for a manual calculating machine

*Luftbild und Luftbildmessung Nr. 17*, Hansa Luftbild GmbH, Berlin, 1939, S. / p. 26

Nr. 8

Beitrittsaufforderung für die „Gesellschaft für Photogrammetrie E.V.“ / Invitation to join the “Gesellschaft für Photogrammetrie E.V.”

Please pass it on!

German  
Society for Photogrammetry  
E.V.  
Berlin SW 29, Airport  
\*

The “Deutsche Gesellschaft für Photogrammetrie” (German Society for Photogrammetry) brings together the most important organizations in Germany with an interest in image measurement and aerial photography. Its members include the “Reich” and state authorities whose official activities fall within these fields of work, surveying authorities of federal states and cities, scientific institutes of the various universities, companies of the equipment manufacturing industry and the executing companies as well as individuals, university professors, surveying experts, architects, engineers, radiologists, students, etc.

The purpose of the society is to cultivate the theory and practice of image measurement and aerial photography, to promote their development, dissemination, and application in various fields of science, technology and business and to exchange experiences. This is not only about the utilization of photogrammetry for surveying purposes, but also about its application in the fields of anthropology, architecture, ballistics, aeronautics, engineering, criminology, radiology, world measurement, weather and cloud research, etc.

The publications of the company serve the exchange of experience. The first experts not only from Germany, but also from various other countries are members. Numerous pictures and drawings illustrate the scientific papers.

The “Deutsche Gesellschaft für Photogrammetrie” (German Society for Photogrammetry) is affiliated to the International Society for Photogrammetry, which currently unites 21 national societies, mainly from European countries and the United States of North America. This association enables the exchange of experience with leading personalities, scientific institutes, and societies abroad, whose work can be utilized.

Declarations of membership,  
orders for publications etc.  
should be sent to:

Deutsche Gesellschaft für Photogrammetrie  
E.V.  
Berlin SW 29, Flughafen  
Postal checking account: Berlin 28456  
to be addressed!

#### Nr. 9

Heft zur Sonderausstellung zum Nutzen der Photogrammetrie und Luftbildvermessung in der Forstwirtschaft / Booklet for the special exhibition on the benefits of photogrammetry and aerial surveying in forestry

*Luftbild Königswald*, Forstmeister von Laer, Hansa Luftbild GmbH, Berlin, 1939, S. / p. 4–5

Left:

It is up to each visitor of the exhibition to decide for themselves what benefits we foresters will one day derive from aerial photography and aerial photogrammetry in general. In case the special exhibition “Luftbild Königswald” provides some inspiration and helps to clear up some misunderstandings, its purpose will have been achieved.

Right:

The flight

The photographs were taken in November 1938 from an altitude of 1575 m above ground with a series measuring chamber of 21 cm focal length. The ratio of focal length to flight altitude results in an image scale of  $(0.21 : 1575 =) 1 : 7500$ . This is the usual image scale for images that are analyzed within the framework of the 1 : 5000 image plan. Five flight strips cover the entire area of the Königswald. Within the flight strips, the individual images overlap by about 60% to enable complete stereoscopic viewing and evaluation. Since the individual images have a format of 18 x 18 cm, the images within the flight strips are therefore taken at intervals of around 500 m each. Each individual image (18 x 18) represents an area of around 180 ha.

The entire area of the Potsdam-Nord survey map, on which the Königswald is located, had already been photographed in 1937 and analyzed to produce a 1 : 25,000 aerial map. At that time the images were taken from a height of 4200 m above ground, which corresponds to an image scale of (0.21 : 4200 =) approx. 1 : 20 000 with the same focal length of the chamber (21 cm). At this scale, an image in 18 x 18 cm format already covers an area of 1300 ha. One image of the present photograph covers almost the entire area of the Königswald.

The image taken from an altitude of around 4000 m is called a “high-altitude flight.” In contrast, images taken from an altitude of approx. 1500 m are referred to as “low-altitude flights.”

#### Nr. 10

Heft zur Sonderausstellung zum Nutzen der Photogrammetrie und Luftbildvermessung in der Forstwirtschaft / Booklet for the special exhibition on the benefits of photogrammetry and aerial surveying in forestry

*Luftbild Königswald*, Forstmeister von Laer, Hansa Luftbild GmbH, Berlin, 1939, n.p.

Aerial view of Königswald

A guide to the special exhibition of forest aerial photographs in the Knights' Hall of the Kroll Opera House on June 27, 28 and 29, 1939

Edited by Forstmeister von Laer

“Reichsforstamt” (State Forestry Office)

#### Nr. 11

Titelblatt / Title page

*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1934, n.p.

#### Nr. 12

Freigabe der Luftbilddaufnahme durch das Reichsluftfahrtministerium / Approval of the aerial photograph by the “Reichsluftfahrtministerium“ (Ministry of Aviation)

*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1939, n.p.

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“Luftbild und Luftbildmessung” of 30. 9. 39 / No. 46415-46418.

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Hansa Luftbild G.m.b.H., Berlin SW 29, Flughafen

#### Nr. 13

Anleitung zum Erkennen geographischer Strukturen in der Kategorie „Sonstiges“ /

Instructions for recognizing geographical structures in the category “Other“

*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1934, S. / p. 61

Nr. 14

Anleitung zum Erkennen geographischer Strukturen in der Kategorie „Optische Täuschung“ /  
Instructions for recognizing geographical structures in the category “Optical illusion”  
*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1934,  
S. / p. 9

Nr. 15

Anleitung zum Erkennen geographischer Strukturen in der Kategorie „Eisenbahnen“ /  
Instructions for recognizing geographical structures in the category “Railways”  
*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1934,  
S. / p. 52

Nr. 16–20

Übungsaufgabe / Exercise

*Luftbild und Luftbildmessung Nr. 13*, Luftbild-Lesebuch, Hansa Luftbild GmbH, Berlin, 1934,  
S. / p. 63, 65, 65, 62, 66

Leihgabe / Loan

Reihenbildner von Oskar Messter mit Holzpropeller in Aufhängevorrichtung,  
Maßstabsgetreuer Nachbau, 1967, Original von 1915, Leihgabe aus dem Deutsches Museum,  
München / “Reihenbildner” by Oskar Messter with wooden propeller in hanging fixture, true-  
to-scale replica, 1967, original from 1915, on loan from the Deutsches Museum, Munich.

Wenn nicht anders angegeben, alle Arbeiten Courtesy der Künstler / Unless otherwise stated,  
all works courtesy the artist.

