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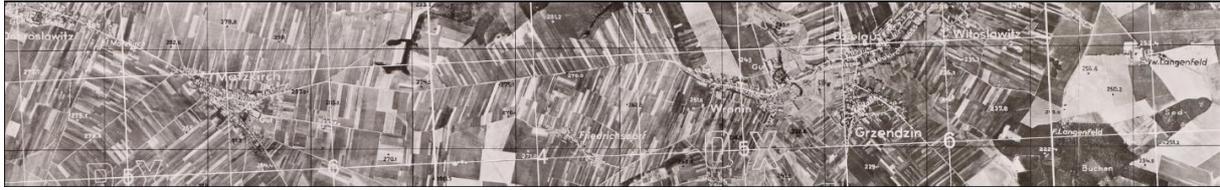


**PATTERNS, PROCESSES & UNDERSTANDING:**  
HISTORIC AERIAL PHOTOGRAPHS FOR LANDSCAPE STUDIES

**Poznań-Będlewo, Poland**  
**24-26 April 2014**

# PROGRAMME & ABSTRACTS





# PROGRAMME

## **Day 1: April 23rd, 2014 (Wednesday)**

**17:00 – registration**

**19:30 – dinner**

## **Day 2: April 24th, 2014 (Thursday)**

**9:00 - registration**

**9:30-9:45 Opening & Welcome**

### **Session 1: The value of historical aerial photographs for landscape studies**

9:45-10:15 Bill Hanson & Ioana A. Oltean, *The archaeological potential of historical aerial and satellite imagery*

10:15-10:45 David Cowley, *Opportunities and challenges of large historical aerial photo collections*

10:45-11:00 – discussion

11:00-11:30 – coffee break

## **Session 2: Patterns, Perception and Understanding – issues of interpretation**

11:30-12:00 Rog Palmer, *Why do we categorise historical aerial photographs as something special?*

12:00-12:30 Grzegorz Kiarszys, *Why are maps often misleading about archaeological sites? Ideology, maps and historic aerial photographs*

12:30-13:00 Lidia Żuk & Sławomir Królewicz, *To trust or not to trust: maps vs. aerial photographs within political discourse*

13:00-13:15 – discussion

13:15-14:30 – lunch

## **Session 3: Landscapes through historic aerial photographs**

14:30-15:00 Rafał Zapłata, Sebastian Różycki, *Historic aerial photographs in the analysis of the cultural landscape*

15:00-15:30 Brais Curras, Almudena Orejas, Javier Sánchez-Palencia & María Ruiz del Arbol, *Understanding social processes between the Iron Age and the Roman Empire through aerial photography. 30 years of case studies in NW Iberia*

15:30-16:00 Agnieszka Latocha, *Changes of the cultural landscape of the Sudety Mountains in the light of the historic topographic maps and aerial photographs*

16:00-16:30 Wojciech Mania, *Townscapes in the age of transformation: from urbanisation to shrinkage*

16:30-16:45 – discussion

16:45-17:15 – coffee break

17:15-18:00 – **Poster session 1**

19:30 – dinner

## **Day 3: April 25th, 2014 (Friday)**

### **Session 4: Landscapes of conflicts**

10:00-10:30 Stephanie Verplaetse, Rebekka Dossche, Wouter Gheyle, Birger Stichelbaut, Timothy Saey, Jean Bourgeois, Marc Van Meirvenne & Veerle Van Eetvelde, *World War I from a bird eyes-view. A landscape characterization of Belgium's war zone seen from the air*

10:30-11:00 Allan Kilpatrick, *Recording Scotland's home front 1914-18*

11:00-11:30 Cathy Stoertz, *Training Ground and Front Line: military landscapes in southeast England*

11:30-11:45 – discussion

11:45-12:15 – coffee break

12:15-12:45 – **Poster session 2**

12:45-14:00 – lunch

### **Session 5: Approaches to rural landscapes**

14:00-14:30 Elżbieta Raszeja, *Identification and assessment of landscape character in spatial planning of rural areas*

14:30-15:00 Dawid Rajmund Soszyński, *A river in the rural public space in the early 1940s. An example of the Bug river valley (East Poland)*

15:00-15:30 – discussion + final discussion

15:30-16:00 – coffee break

**16:15 – excursion**

**20:00 – conference dinner**

## **Day 4: April 26<sup>th</sup>, 2014 (Saturday)**

Departure

**Posters:**

Jerzy Miałdun, Felix Biermann, Christofer Herrmann, Arkadiusz Koperkiewicz, *Preliminary results of non-destructive studies on the fortified settlement at Barczewko in North-Eastern Poland*

Jerzy Miałdun, *Filtering to reduce noise in digital aerial images of archaeological sites*

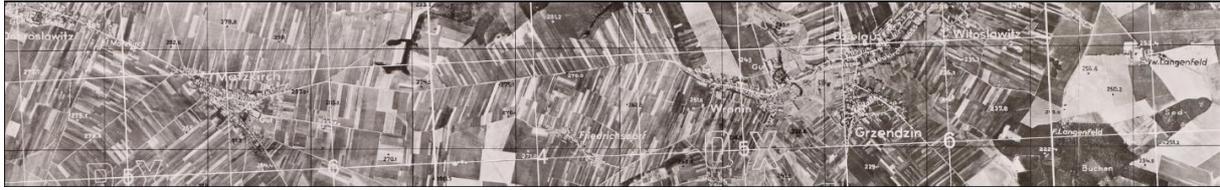
Aleksandra Wilgocka, *Urban and riverscape changes in the Szczecin's harbour and Oder influvium in 20th century. Examples of aerial photographs from museum collection*

Grzegorz Szalast, Agnieszka Skwira, *An attempt to use World War II vertical aerial photographs to reconstruct demolished buildings*

Catalin I. Nicolae, *Bucharest urban landscape through historical aerial photographs*

Wojciech Mania, *Even flying aces are sometimes wrong. A missing manor house from nearly a century-old aerial photography*

Grzegorz Kiarszys, *View from the high castle. War, power and landscape of Ancient Babylon*



## ABSTRACTS

### Session 1: The value of historical aerial photographs for landscape studies

**William S. Hanson & Ioana A. Oltean, *The archaeological potential of historical aerial and satellite imagery***

The impact of aerial photographic discoveries on European archaeology has been immense. It has facilitated recognition of the density, diversity and complexity of settlement activity across the fertile lowlands over millennia, greatly extending the distribution of many types of site. Traditional observer-directed archaeological reconnaissance involves selective oblique photography of sites identified by observation from light aircraft at times when optimum conditions for their visibility prevail. However, historical archives of vertical photographs and satellite photography obtained for a range of other purposes, such as military intelligence-gathering, mapping or other landscape survey, offer considerable and largely untapped potential for archaeological research.

Tens of millions of mainly vertical photographs of areas of Europe, derived primarily from military sorties taken during both the First and Second World Wars and shortly thereafter, are potentially available for consultation. Many of these photographs are housed in three major international archives: two in Britain (The National Collection of Aerial Photography in Edinburgh and the Imperial War Museum in London) and one in the USA (National Archives and Records Administration in Maryland). In addition, a number of countries in Europe maintain their own substantial archives of aerial photographs with national coverage, though in other countries such material can be more dispersed. There are also approximately 900,000 declassified US military intelligence satellite photographs taken between 1960 and 1980 available through the United States Geological Survey, whose potential has already been demonstrated in a number of archaeological surveys.

These various historical data sets have a number of particular advantages over more recent imagery. First and foremost, they provide a unique insight into the character of the landscape across parts of Europe as it was approximately half a century or more ago before the archaeologically destructive impact of later 20<sup>th</sup> century developments, such as intensive industrialisation, urban expansion, infrastructure improvements or the increasing mechanisation of agriculture. Thus, they allow archaeologists to turn back the clock and identify archaeological features in the landscape that have been erased both from view and from memory.

The historic character of the imagery means that it can often provide large scale ‘snapshots’ of the landscape at various points in time. This can facilitate time-change analysis of the condition of known archaeological monuments, providing insight into any site attrition or modifications that may have occurred within the landscape. This, in turn, can aid in any quantification of the impact of landscape change on the archaeological resource and help

demonstrate the need for rigorous protection of what remains, thus making a contribution to the management of the cultural resource.

The character of the historical archival photography is markedly different from that obtained through observer-directed aerial reconnaissance. In the latter the initial recognition and primary interpretation take place in the air, both in terms of whether a particular feature is recognised and recorded, but also in relation to the chosen flight path for the aircraft, thus compounding the serendipitous nature of the survey process. By contrast, historical archival imagery is primarily vertical block coverage which is more systematic, intensive and often quite extensive. Such coverage greatly enhances the potential for taking a more landscape-focused approach, enabling the identification and mapping of more widespread and sometimes more ephemeral remains, such as roads and trackways, field systems, cultivation traces and mining activity, and the interrelationships between settlement foci and the wider man-made landscape.

This paper will highlight the potential of these archival resources with case studies from Dobrogea, in eastern Romania which make use of declassified CORONA high altitude military satellite and World War Two photography. This archival material was combined with examination of recent high-resolution satellite imagery (primarily QuickBird and GeoEye), Romanian orthophotos and several seasons of observer-directed oblique reconnaissance to facilitate a re-assessment of Roman frontier installations in the area and to enhance understanding of the wider archaeological settlement pattern.

### **David Cowley, *Opportunities and challenges of large historical aerial photo collections***

This paper will explore some of the intellectual, practical and financial issues impacting on the exploitation of large collections of historic aerial photographs.

## **Session 2: Patterns, Perception and Understanding – issues of interpretation**

### **Rog Palmer, *Why do we categorise historical aerial photographs as something special?***

Each individual aerial photograph will record the patterns that were detectable at the instant of the exposure but to see processes we need to see variations within those patterns as, naturally and culturally, the land and the landscape is continually changing. Examples from recent work in England will show how aerial photographs allow us to see patterns and processes and how understanding of these can enhance our perception of the past.

There are few, if any, places in the world that have been photographed only once from an aircraft or a satellite. Best practice photo interpretation requires us to examine all available photographs, so why do we single out ‘historical aerial photographs’ as something special rather than as one part of a series of snapshots that enable us to identify processes and change? One reason may be because we have many separate archives of photographs, thus allowing the ‘special’ characteristics of each to be used for its promotion. This contribution will question the validity of the concept of ‘historical aerial photographs’ and propose ways in which, in this digital age, archives may best serve the user rather than the archivist.

**Grzegorz Kiarszys, *Why are maps often misleading about archaeological sites? Ideology, maps and historic aerial photographs***

This paper discusses the relationship between knowledge and perception of the cultural landscape. Cartographical sources considered as results of interpretation offer certain historic ideas of landscape in a strictly defined period. Therefore, they can be understood as a projection of landscape perception, the ordered image of cultural space. Interpretation of historic maps can give an insight on the way the landscape was understood and valued in the past. It allows the study of the relationship between ideological changes and the way archeological heritage was perceived.

Archival and modern topographical maps of selected archaeological sites from Western Poland are compared with maps drawn by archaeologists to show how mental pattern and earlier experiences can influence archaeological and cartographical images. Identification of terrain forms will be based on historic photomaps and airborne laser scanning imagery.

Historic and modern aerial photographs will be used also to study changes in landscape that transformed existing archaeological sites, while ALS will be used to show their current state of preservation. Results of these considerations will be used to answer the main question stated in the title.

Perception of cultural landscapes is controlled by knowledge that can be learnt and used only through social involvement and discourse. Knowledge brings places to life and gives them identity. Sometimes it creates the whole history of social relations for which certain places can become the focal point.

Some places require specific knowledge that is not shared in equal way by all members of society. Earthworks as archaeological sites can become contemporary places only if their existence is acknowledged. That requires at least some archaeological knowledge that can be used for basic interpretation and understanding of processes that transformed them into the relicts we observe today. Identification of archaeological micro-topography always refers to mental pattern that precedes perception. It is based on earlier experiences and can be altered in the time. Archaeological sites can be valued due to their physical form, state of preservation as well as chronology or relation to historic events that are considered to be important.

As soon as such a place receives its meaning it starts to play a part in contemporary social discourse receiving new cultural context. It can be created in relation to different phenomena like education, social identity or become an active part of political discourse etc. It is never only a marker in the landscape due to its involvement in a complex systems of cultural relations. Because of changes in contemporary culture archaeological sites can become objects of interest for scientists or important places for local society. However, on the other hand, if it does not fit the main ideology it may be erased from memory, physically transformed or gradually lose its meaning. Some of the results of those processes can be studied through interpretation of historic and modern maps and aerial photographs.

**Lidia Żuk & Sławomir Królewicz, *To trust or not to trust: maps vs. aerial photographs within political discourse***

The following paper deals with intertwined relationships between historical maps and aerial photographs and their effect upon current archaeological practice. Maps are a representation of space and as such related to power strategies and control. It depends entirely upon map makers which information will be made available to wider users. On the other hand, aerial

photographs, in particular vertical coverage, are regarded as an objective record that depict landscape in an exact manner.

For decades access to cartographic data under the communist regime in Poland was limited by various clauses of confidentiality and secrecy. The first edition of topographic maps at 1:25000 for civil use was published in the 1950s and 1960s. These so called 'mapy powiatowe' or 'obrębówki' were released in the midst of the Cold War and their content was seriously affected by military's fear about letting slip any sensitive data to the enemy. Thus those maps were stripped of crucial cartographic information regarding their projection, grid system, etc. To make things more complicated, it is commonly believed that distances and angles were also distorted in a random and unpredictable manner.

A deliberate decrease of cartographic standards in times when the first satellites were launched could be regarded as a historical curiosity. However, for a number of reasons those maps were used as a background for the Polish Archaeological Record programme (Archeologiczne Zdjęcie Polski – AZP) which was initiated in the late 1970s. This raises the vital question of how accurate and reliable is the location of archaeological sites registered during fieldwalking survey and how to digitise those records for use in GIS.

The aim of this paper is to analyse the contents of topographic maps used for the AZP to estimate the extent of potential distortion. A random sample in the vicinity of Poznań will be compared and analysed in detail with contemporary aerial photographs and original military maps which were used as a background for the civil edition. It is hoped to develop a methodology for effective geoprocessing of this data. This will also help understand if problems experienced by archaeologists carrying out surveys were caused by original map disfigurement or whether other factors should be taken into consideration.

### **Session 3: Landscapes through historic aerial photographs**

#### **Rafał Zapłata & Sebastian Różycki, *Historic aerial photographs in the analysis of the cultural landscape***

The aim of this presentation is to present issues related to (1) the acquisition of archival resources, (2) the quality of historical aerial photographs, as well as (3) their potential for the study of cultural heritage. First of all, it seems important to define quality-related suitability of archival aerial photographs in research, with focus on their spatial resolution. In addition to the acquisition of photographs, relevant in the context of quality are also available resource processing methods, used for research and inventory of heritage.

In addition to these issues important for the study of this problem are the scope and the applicability of archive material in the study of cultural landscape. Thus, the second part of the presentation focuses on discussing (1) archival aerial photographs as a source to identify and make inventories of heritage objects, as well as on the presenting the potential of archival aerial photographs for (2) monitoring changes and damage of historic objects in the past. We investigate the importance and potential of using archival aerial photography for objects of various state of preservation and various kind (archaeological, architectural and industrial heritage).

This presentation refers to research carried out within the scientific project entitled Use of Laser Scanning and Remote Sensing in the Protection, Analysis and Inventory of the Cultural Heritage. Development of Non-invasive, Digital Methods of Documentation and Recognition of Architectural and Archaeological Heritage Resources conducted by the

Cardinal Stefan Wyszyński University in Warsaw as part of the National Program for the Advancement of Humanities established by the Ministry of Science and Higher Education.

**Brais Curras, Almudena Orejas, Javier Sánchez-Palencia & María Ruiz del Arbol, *Understanding social processes between the Iron Age and the Roman Empire through aerial photography. 30 years of case studies in NW Iberia***

The use of historical aerial photography has been a fundamental tool in the work of the research group EST-AP during the last 30 years. The aim of our paper is to provide a synthetic view of the possibilities offered by the use of aerial photography in the archaeological analysis of landscape. Our research has been concerned primarily with the study of social formations of the Iron Age and the forms of organization and exploitation of the territory during the Roman Empire in northwestern Iberian Peninsula. We will present the different ways in which historical photography has contributed to the development of our research projects. We will focus in the way this tool has allowed an interpretation of the historic dimension of the landscape in areas that have experienced dramatic transformations in recent decades. Often, the development of morphological analysis has been only possible through the use of historical documents such as the so-called American flight (ca. 1950), which reflect realities now disappeared or very much altered. In addition, the sequential use of historical photographs allows a diachronic analysis of landscape evolution. This approach to territory has also a great potential for the evaluation of its heritage. In our communication we will show how we have used aerial photography as a means to obtain a comprehensive view of the landscape, understood in its cultural dimension. We will present several examples of its use in the morphological analysis of Roman mines, Iron Age and Roman settlements and Roman roads. We will also show how photography can be used in the analysis of potential land resources (Land evaluation).

**Agnieszka Latocha, *Changes of the cultural landscape of the Sudety Mountains in the light of the historic topographic maps and aerial photographs***

The Sudetes Mountains have witnessed a large-scale depopulation and land abandonment, which started at the end of the 19<sup>th</sup> century and intensified after World War II. The depopulation was due to both socio-economical and political constraints, as well as to harsh environmental conditions. The decline of population and agriculture led to the substantial changes in landscape structure. Comparative studies of old topographic maps from 1880s, sets of aerial photographs from the 1970s and 1990s with contemporary ortophotomaps (2010) and topographic databases (2013) allow for detailed analysis of the changes of landscape within the areas subject to the highest level of depopulation and withdrawal of human activity (i.e. Kłodzko region). The most dynamic processes of landscape alternation are connected with changes of settlement pattern and land use. Some old villages do not exist at present and the extent of many others has shrunk. The development of various stages of natural secondary succession of vegetation is very well visible on the following sets of maps and photographs, especially the increase of forests, shrubs and grassland areas at the expenses of arable grounds. Another change within the landscape pattern is the gradual disappearance of many old roads from the landscape.

The historical sources, such as old topographic maps and aerial photographs are a very valuable source of information for tracing the dynamics of landscape change within the

depopulated regions. They allow also to distinguish the spatial and temporal differences of the evolution of the cultural landscape within the abandoned areas.

**Wojciech Mania, *Townscapes in the age of transformation: from urbanisation to shrinkage***

Small towns (up to 10 thousand inhabitants) in western Poland after World War II changed significantly: the German population was displaced, many of them were also damaged during the war. However, the most interesting changes were politically driven, affecting the demographic structure, economic situation and finally town's function. Small towns until 1950s were in fact so called 'rural towns' (a term not used in contemporary bibliography). During the following decades they were subjected to the process of 'urbanization', which should be understood as the loss of agricultural function within towns, development of industry and the consequent introduction of forms of dwelling and commerce appropriate for large cities.

The apogee of this process occurred in the 1970s, when some of the towns (e.g. Barcin) even doubled the number of inhabitants. In their centres (usually located around historical market squares) appeared department stores and estates of blocks of flats on the outskirts.

At the time of political and economic transformation, which began in 1989, small towns had to deal with the crisis. Rapidly developed industrial plants, which were often major employers in the city, stood on the edge of bankruptcy. Lack of work places and the increasing isolation of small towns, deepened by such things as liquidation of railway lines, contributed to the depopulation of small towns and the loss of their rank and function, which can be called city or town shrinkage.

The processes outlined above influenced the landscapes of small towns (or townscapes) understood on the one hand as their physiognomy, on the other hand as carriers of non-material values, such as urbanity, heritage and identity of the local community.

The study was based on aerial photographs made from the 1950s to the first decade of the 21st century. The interpretation of their content enabled a fuller description of the transformation of landscapes of small towns, going beyond the categories of land use and taking into account the relationships between places, their material form and meaning.

## **Session 4: Landscapes of conflicts**

**Stephanie Verplaetse, Rebekka Dossche, Wouter Gheyle, Birger Stichelbaut, Timothy Saey, Jean Bourgeois, Marc Van Meirvenne & Veerle Van Eetvelde, *World War I from a bird eyes-view. A landscape characterization of Belgium's war zone seen from the air***

Over the years, the Department of Archaeology at UGent has collected more than 6,500 aerial photographs of the Belgian war zone. The Great War Aerial photography database contains the most important collections of World War One aerial photographs, gathered from various museums and archives around the world. The majority of aerial photographs cover the Belgian western front zone and give insights to the state of the battle zone as well as the hinterland between 1914 and 1918. Also 46 photographs were discovered covering the German defence around the city of Antwerp, which was built by the Germans in fear of an attack from the Netherlands. Each photograph has been scanned, allocated a unique number,

localized and georeferenced in a GIS-environment. The collection is an important data source for the inventory of the war traces visible on the photographs. The resulting database contains currently almost 27,000 features related to WWI identified from the aerial photographs. In a next research phase a landscape analysis provides insights of the context of the listed military elements. In this paper we present two case studies showing the potential use of aerial photographs for both archaeological inventory of war traces and the landscape interpretation, also showing the interdisciplinary collaboration between archaeologist and landscape geographers.

The first case study, Reconstruction and remaining landscape elements from WWI – South Ieper goes beyond the inventory of military features with a landscape analysis of land use and the linear structures before, during and after the war period. The purpose was to assess to what extent the landscape was rebuilt after WWI and if the change trajectories of the landscape have an influence on the presence of war features. Subsequently, we wanted to know which landscape elements of WWI still exist in the current landscape. The landscape characterisation was based on the interpretation of four series of aerial photographs: the black and white aerial photographs (KLM/IWM and IFFM) of 1915 showing the pre-war landscape, the photos of 1918 representing the war landscape, the black and white photos (RCAHMS) of the 1940's indicating how the landscape was reconstructed or changed after WWI, and the coloured orthographic photographs from the National Geographic Institute of Belgium giving the situation around 2002-2003. The landscape characterisation confirmed that a large part of the land uses and linear structures were destroyed during the war. Moreover, the trajectories showed that the post-war landscape of 1940 has quite some resemblance with the pre-war landscape, meaning that the landscape was reconstructed after WWI: almost 80% of the current land use, mainly agricultural land, is similar on the pre-war landscape. A smaller part got a new designation and only 1.16% was preserved. The linear structures however show a different result. The largest amount (38.92%) got a new destination, a slightly smaller part was preserved, and a third part was reconstructed. The conserved elements are mostly roads, railways and paths.

The second case study uses the 46 photographs taken by the German lieutenant Zimmermann in January 1918 during three flights named 'Kaiserliche Fortification Antwerpen'. After the localisation and interpretation of the photographs mapping the war features, a field inventory of the conserved military elements was compiled. More than 530 military defensive elements were identified on the photographs. In total 472 military elements were found during fieldwork, more than 10 km of trenches and almost 400 bunkers. The quantity, diversity and quality of the military elements are not only unique for Belgium but also in Europe. The photographic interpretation and field inventory showed differences. Structures like barbed-wire were clearly visible on the photographs but were all removed after the war and thus no longer visible in today's landscape. On the other hand, bunkers were hard to recognize on photographs, but due to their vast structure they were hard to remove and thus still visible in the landscape. Simultaneously with this field inventory, an analysis of the historic landscape was executed. A huge number of the military remains still survive in today's landscape, although they are situated in a highly dynamic landscape since the last 100 years. For example the area around the canal Dessel-Schoten changed from a mainly rural area to a strongly urbanized area with industrial zones around the canal. A relation between the land use form and preservation of the relicts was found. Most of the military elements (54%) were found in wooded areas, since they are the most stable and ancient land use in the research area. No trenches were found in built up areas, however a large number of bunkers were well preserved. Nowadays most of these bunkers have another function (garage, stable, wine-vault, habitat for bats etc.). The smallest amounts of relicts were recognised in agricultural land uses. Because of the leveling of the cropland, trenches disappeared and also

bunkers were made to sink into the ground by farmers. The results of the archaeological inventory and landscape analysis formed the basis for a general vision on the future of these military relicts, focusing on the heritage preservation and raising awareness.

The interdisciplinary approach of combining landscape analysis and archaeological research based on aerial photographs has produced valuable results. This methodology can be considered both successful and to be recommended. This interdisciplinary approach will be used on a larger scale in the new research project Non-invasive Landscape Archaeology of the Great War, using the Great War Aerial photography database. A combination of geophysical soil sensing, remote sensing archaeology, historic and visual landscape analysis research will be integrated in a cartographic assessment model of the expected remains of WWI features. This model will result in a procedure for creating valuation maps of the WWI heritage.

### **Allan Kilpatrick, *Recording Scotland's home front 1914-18***

In advance of the centenary commemoration of the First World War in Scotland, an audit of all known sites relating to the war was undertaken by the Royal Commission on the Ancient and Historical Monuments of Scotland and Historic Scotland in 2013. Scotland was on the front line, strategically positioned guarding the approaches into the Atlantic and thus required the construction of large-scale coastal defences and establishment of airfields and air stations, especially on the North Sea coast. Both the audit and examination of aerial imagery have revealed a much more complex system of land defences around military sites, major naval bases, transport systems and urban areas of Scotland than was previously known.

Understanding and recording these landscapes has been enhanced by the use of historic aerial imagery. Namely the collection of RAF vertical photography taken in the years after the Second World War and more importantly the Aerofilms collection. The collection of photographs taken by the Aerofilms company during the 1920s and 1930s, have proved vital in identifying and recording military and industrial sites. Aerofilms was set up by former First World War photo reconnaissance flyers whose skills were honed during their service above the battlefields of the Western Front. Their objective was to produce aerial photographs for commercial purposes but many images include these rarely photographed sites. These aerial images are often the only surviving pictorial evidence of many of the sites. Using aerial imagery it has been possible to map these sites using GIS, to provide site area polygons, defining the extent of sites.

The paper will emphasise the importance of combining both archival material and aerial photographic evidence to highlight previously unknown military landscapes in Scotland.

### **Cathy Stoertz, *Training Ground and Front Line: military landscapes in southeast England***

The English Heritage archive contains thousands of military aerial photographs taken in the 1940s. These photographs are historical documents in their own right, providing a dramatic record of Britain's rapidly developing anti-invasion defences at the beginning of WWII and documenting the evolution of defensive landscapes as the war in Europe progressed. The wartime features, which were the immediate concern of the military photographers, are only one element within the multi-layered pictures of land-use and landscape change recorded by their cameras.

This paper will use examples from south-eastern England to illustrate both the immediacy and the time depth that are preserved within the photographic archive. It will also demonstrate how, where even a small amount of documentary evidence is available, the interpretation and appreciation of historic landscapes found on archive photographs is greatly enhanced.

## **Session 5: Approaches to rural landscapes**

### **Elżbieta Raszeja, *Identification and assessment of landscape character in spatial planning of rural areas***

A major problem investigated in contemporary landscape studies is the adaptation of methods used in landscape studies to the requirements of spatial planning practice. In this context a particularly important role is played by the identification and clear recording of landscape characteristics, an appropriate selection of assessment criteria, as well as the applicability of research results in space management. Assessments formulated on the basis of characteristics influence the decision-making process for spatial decisions, e.g. land use, afforestation or housing development. Assessment is not an evaluation, as it focuses on highlighting the specific character of areas and distinguishing features, as well as determining the integrity and cohesion of landscape, including its consistency with historical patterns. Protection of the cultural landscape, particularly in rural areas, is a problem that is difficult to tackle due to its complex nature and increasingly rapid dynamics of functional, cultural and spatial changes in these areas. From the point of view of planning practice it is essential both to assess the character of landscape as well as its dynamics, stability and resistance to changes. A new approach to cultural landscape management indicates the need to integrate explanatory studies using a broad spectrum of methods, including the interpretation of historic aerial photographs.

### **Dawid Rajmund Soszyński, *A river in the rural public space in the early 1940s. An example of the Bug river valley (East Poland)***

The paper presents selected issues concerning the role of a river in rural public space. The research was carried out for six villages in West Polesie close to the Bug river (eastern Poland). Retrospective analyses were based mainly on archival aerial photographs from the 1940s and to a lesser extent on topographic maps from the late 1930s, overlaid on contemporary orthophotomaps (using ArcGIS software). Results have been compared with information from interviews with the residents – especially the oldest people who have lived in this area since the 1940s.

The aim of the research was to discuss three basic issues. Firstly, to determine the landmarks of traditional rural landscape of analyzed villages – especially elements such as roads, squares, surrounding of the main buildings, common spaces on river bank and other places of meeting. Particular attention was paid to the presence of the river in the landscape and its importance to landscape character. Secondly, to determine the former system of public spaces and their relation to the river. Finally, to answer the question to what extent it is possible to determine the location of public spaces and the role of the river in the village social life on the basis on archival aerial photographs. All issues were considered for both the 1940s and for the present day. On this basis the changes in the rural landscape and public spaces functioning that have occurred in this area over the last 60 years have been presented.



## POSTERS

**Jerzy Mialdun, Felix Biermann, Christofer Herrmann, Arkadiusz Koperkiewicz,**  
*Preliminary results of non-destructive studies on the fortified settlement in Barczewko in North-Eastern Poland*

[...]

**Jerzy Mialdun,** *Filtering to reduce noise in digital aerial images of archaeological sites*

[...]

**Aleksandra Wilgocka,** *Urban and riverscape changes in the Szczecin's harbour and Oder inerfluve in 20th century. Examples of aerial photographs from museum collection*

It is nothing new that historical aerial photographs can sometimes lead to understanding of dramatic changes in the post-war urban landscapes. Comparing older with newer views it is possible to capture both, small- and large-scale of those changes.

In the archives of National Museum in Szczecin there are a small number of aerial photographs from the first half of the 20<sup>th</sup> century as part of considerable collection of German glass positives, documenting landscapes, architecture and art of the Pomerania region. Fourteen of them depict Szczecin's harbor and Oder interfluve, which show how this important economic heart of the city looked before the Second World War.

This part of Szczecin suffered the biggest destruction in 1944 and 1945. What had not been turned into debris by Allied carpet bombing, was blown up by retreating German troops. Reconstruction of the harbor, Oder embankment and some parts of interfluve as well as bringing back its influence on the national economy, was one of the biggest issues in the post-war Polish-governed city. Today some of those areas are wrestling with effects of ups and downs of local and global economies, some were abandoned just right after the war, but for some another big chance for hayday has been given.

Using archive AP's from the collection of the National Museum in Szczecin compared with other historical sources I will try to reflect the difference in the development and regression of a few chosen places during second half of the 20<sup>th</sup> century. The aim of the poster is to demonstrate the value of those historical photographs as a source for planning issues and education needs of the local public.

### **Grzegorz Szalast & Agnieszka Skwira, *An attempt to use World War II vertical aerial photographs to reconstruct demolished buildings***

During the Second World War the landscape of Poland was heavily transformed, especially in built-up areas. Many of the buildings in cities, towns and villages were destroyed and the only record of their existence today are archival aerial photographs.

The problem with using this type of sources can be the lack of detailed technical information, how these photos were taken, such as the focal length of the camera or the flight altitude of the aircraft. In our study we present different ways of measuring the heights performed on archival aerial photographs. We use German vertical aerial photographs of Wolin Island taken during the Second World War. We will try to estimate buildings heights based on measuring the length of the shadows and stereoscopic measurements. After completing the measurements, we will try to do a schematic reconstruction of non-existing buildings. Finally, we will compare and evaluate the effectiveness of both methods.

### **Catalin I. Nicolae, *Bucharest urban landscape through historical aerial photographs***

This poster presents a very recent find in the photographic archive of the Vasile Parvan Institute of Archaeology in Bucharest, Romania. It consists in an aerial photography of eastern Bucharest taken by Iosif Berman around 1930.

Iosif Berman (1892–1941) was the most important Romanian photographer and photo-journalist between the two World Wars. Born in northeastern Romania, in a Jewish family, Berman became interested in photography very early on and moved to Bucharest at the age of 18, starting work as a photo-journalist. He was a photographer in the First World War, taking photos of the October Revolution in Odessa and later on of the fleeing German army. After the war, he was a photographer for the major Romanian newspapers, taking photographs of the Romanian Royal Family as well. His photographs were published in all the major Romanian newspapers of the time and also in *The New York Times* and *National Geographic*. He was a correspondent of the *Associated Press* and *Scandinavian Newspaper Press* as well.

Unfortunately, in 1937 the Romanian right-wing government closed down the left-wing newspapers for which he worked and his life's work was confiscated. Nevertheless, he continued to work and to send photographs to *The New York Times*. Soon after, in 1940, he was banned from continuing his work due to the Anti-Jewish laws. Depressed, he soon died on September 17, 1941 of a renal disease for which he refused to get any treatment.

The photo that we are discussing was taken somewhere between 1930 and 1935 and represents an important part of Bucharest that was heavily damaged during the communist regime of Nicolae Ceaușescu.

Aerial photos by Berman are rare, though in the library of the Romanian Academy are few unsigned aerial photos that we believe belong to the same author.

Documents like this are of extreme importance for us, in our effort to better understand the past and the huge negative effect of the architectural madness of the communist era.

**Wojciech Mania, *Even flying aces are sometimes wrong. A missing manor house from nearly a century-old aerial photography***

At the turn of 2012 and 2013 I received two oblique aerial photos taken in 1919 during a flight by a Polish crew, when shots of manor houses from eastern Wielkopolska were taken. Despite handwritten signatures, the location of the two photographs was not known, and I was asked for help in finding them.

There is an inscription on the frame of first photograph with a name of the village Cielinowo, but the village of that name was not found in any of the available lists. Quite quickly it turned out that there is a village with very similar name Cielimowo. After comparing features of the landscape visible in the picture with contemporary orthophotomap of the latter, it was possible to state that this is a sought-after manor house. The cause of the problem was, therefore, a minor mistake made by a writer (possibly navigator or pilot himself) back in 1919.

The second photograph was signed by the same hand, as Goranin. A village of that name exists and it is just eight kilometres from Cielimowo described above. Unfortunately its topography is different from that visible on the aerial photograph.

But there is also a second spot bearing the name of Goranin. Although situated further east, still lies in the Wielkopolska region and furthermore it is within range of the aircraft from which the photographs were taken. Only a part of it has survived to the present, since most of it was destroyed by development of open cast mining in the area. It is known that in a former part of the village was a manor house. However, archival maps show different topography than that on the aerial photograph from 1919.

This poster shows the results of the investigations of historic aerial photograph of a manor house signed as Goranin. Secondary topics are local history and identity, but also social media, which are becoming a tool of integration of local communities and peculiar extension of landscape – a cyberscape.

**Grzegorz Kiarszys, *View from the high castle. War, power and landscape of Ancient Babylon***

Historic aerial photographs are commonly considered to be a metaphor of a window through which archaeologists can access past landscapes. Most of archaeological papers related to that matter are focused on the problem of identification of archaeological sites or describing transformations of cultural landscapes in time. Yet, they rarely tend to answer the crucial question structuralizing our experience: How do we recognize and understand relics of historic places visible on archival photographs?. It is not only such factors as cropmarks or soilmarks that influences manifestation of archaeological sites, but also the ability to recognize and interpret structures of anthropogenic origin. Moreover, aerial photographs offer an often misleading perspective composed of a large sample of landscape visible on one picture – a point of view that was usually out of reach to a person standing on the ground. Therefore we need to take into consideration the fact that we do not interpret the past landscape as it was, but photographs of it – reduced and transformed to a certain scale image.

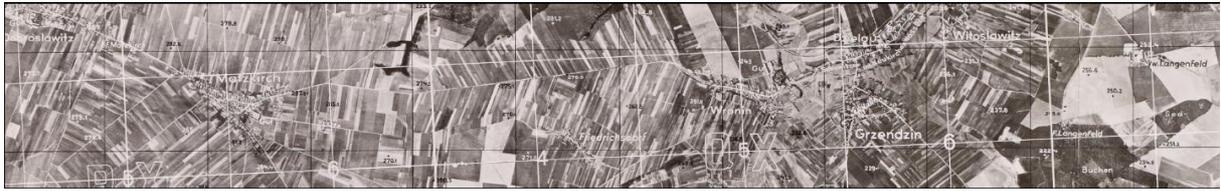
The Babylon case study will be used in my poster as an example depicting the problem described above. Due to political shifts that took place in Iraq in the second half of the 20th century, the landscape of Babylon was greatly transformed. Some ancient buildings were

reconstructed and Saddam Hussein's palace was built on the artificial mound in their vicinity. The meaning of Babylon was subjected to contemporary political needs.

In the first part of my poster I will use historic and contemporary satellite imagery to present the extent of landscape changes. The second part will focus on the socio-cultural interpretation of contemporary oblique and vertical aerial photographs of the Babylon complex. I will present two different interpretations – the first will be based only on the aerial photographs and inspired by the most popular explanations borrowed from phenomenological approaches in landscape archaeology. The second interpretation will take into consideration knowledge that cannot be obtained from simple interpretation of aerial photographs (such as historical context, symbolism etc.) to show how even small things can dramatically change the interpretations that had previously seemed to be obvious.







# NOTES