

LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

**Militarized Visualities:
Photographed Landscape
in WWI Germany**

Inaugural-Dissertation
zur Erlangung des Doktorgrades der Philosophie
an der Ludwig-Maximilians-Universität
München

vorgelegt von
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München, 2023

Doctoral Dissertation:

“Militarized Visualities: Photographed Landscape in WWI Germany”

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Oral Examination: November 2, 2021

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This project was supported by the Research Institute for the History of Science and Technology of the Deutsches Museum.

*For Giulio Regeni, Valeria Solesin, and all other researchers
who were unfairly precluded from completing their theses*

Contents

| | | |
|----------|---|------------|
| 1 | Introduction | 1 |
| 1.1 | Expanding the Categories of Landscape | 13 |
| 1.2 | Aesthetics of War in the German Print Media | 25 |
| 1.3 | From <i>Kriegsmaler</i> to Artificial Eye | 37 |
| 2 | Ground Warfare (Landkrieg) - The View from Below: <i>Empathy</i> | 47 |
| 2.1 | The Soldier's Camera | 49 |
| 2.2 | <i>Feldpostkarten</i> : Cityscapes, Ruins, Rubble, and the <i>Innere Landschaft</i> | 69 |
| 2.3 | From Landscape to No Man's Land | 89 |
| 3 | The Conquest of Air (Luftkrieg) - The View from Above: <i>Abstraction</i> | 113 |
| 3.1 | Aerial Photo-Reconnaissance and a New Topography | 115 |
| 3.2 | Abstract, Sectioned, Measured, and Analyzed Land | 137 |
| 3.3 | Visibility and Camouflage | 159 |
| 3.4 | From a Bird's-Eye View to the God's-Eye View | 191 |
| 4 | Conclusion and Outlook - Beyond WWI Visualities | 211 |
| | German Summary | 223 |
| | List of Figures | 231 |
| | List of Abbreviations | 237 |
| | Bibliography | 239 |
| | Archived Primary Sources | 239 |
| | Objects and Collections | 241 |
| | Published Primary Sources | 243 |
| | Publications | 243 |
| | Newspapers and Magazines | 249 |
| | Published Secondary Sources | 252 |

Chapter 1

Introduction

A motto written on field postcards circulating in Germany during the First World War declaimed: “Air combat against France – Sea battle against England – Ground warfare against Russia – Baptism of fire in Belgium: The four elements in the World War.”¹ As it was often propagandized at that time (1914-1918), the first *modern* war employed an industrial apparatus in which technology could symbolically control the four classical elements taking advantage of their natural structures to unleash their forces on the enemy. In this perspective, the philosopher Peter Sloterdijk (2002) interprets the use of chemical weapons in World War I² as the beginning of “atmoterrorism,” namely the destruction of the enemy’s environment attacking the prerequisites of life, which, according to the author, represents the founding moment of modernity. The outbreak of WWI also represents a turning point in Eric Hobsbawm’s historical periodization, which indicates the year 1914 as the beginning of the so-called “Short Twentieth Century,” also known as “The Age of Extremes” (Hobsbawm 1994). Even from an art-historical point of view, Martin Warnke (2007) described WWI as the “incubation period” for the development of political image propaganda. Incidentally, secondary literature is not alone in interpreting WWI as a transformative moment in the cultural history of modern warfare. While the conflict was in full swing, the public awareness of participating in a total war, which mobilized an unprecedented amount of human, technological, material, and natural resources, motivated the denomination of this period as

¹ My translation; original: “Luftkampf gegen Frankreich -- Seegefecht gegen England -- Landkrieg gegen Russland — Feuertaufe in Belgien: Die vier Elemente im Weltkrieg” (Fleming 2004, 81).

² In the present research, the (1914-1918) conflict known as the First World War, World War One, World War I, or the Great War will be abbreviated as WWI.

a “große Zeit” (Time of Greatness).³ Since its outbreak, this conflict was an extra-ordinary event that deserved to be remembered through the most realistic, democratic, and industrial (in one word “modern”) visual practice available at that time: photography. The camera seemed, in fact, the perfect instrument for recording the novel way of making war, keeping pace with the automatization of technological processes, the increased firepower and operating distance of guns, and the experimentation of new lethal weapons.

The drastic transformation of “the art of war” was determined by the increasing scale of the conflict, which for the first time included the air-and-underwater space, thanks to the effective employment of the airplane and the submarine. As the Prussian field marshal Alfred von Schlieffen (1909) predicted, “however large the battlefields may be, they will offer little to the eye,”⁴ and in fact WWI’s enormous combat zone required a new military apparatus of visual intelligence (photo-reconnaissance) necessary to foresee the enemy maneuvers. Therefore, ground and aerial photography were not only highly enhanced in WWI but were used as technologies of ‘military perception,’ and the camera’s automatic recording of images constituted an essential element of strategic and tactical warfare. The military use of the camera, which nowadays is an indispensable tool for any army, has been defined by military historians and theorists of science and technology in various ways in the last fifty years: Colonel Roy M. Stanley (1981) described it as “work photography,” for Allan Sekula (1984) the warfare produced “instrumental images,” while, more recently, Harun Farocki (2002) has coined the term “operational image.” Furthermore, Paul Virilio’s interpretation of the military supply of images within a “logistics of perception” (Virilio 1989) has been recalled by Antoine Bousquet (2018) in the book *The Eye of War*, in which he provides a historical overview of the “martial gaze.”

In the last decades, German scholars have also described the lethal vision

³ The evolution of the term “die große Zeit” can be found in *Literature at War, 1914-1940 Representing the “Time of Greatness” in Germany* (Natter 1999, 15) The interior’s upper lid of the military decoration known as the iron cross reported “Zur Erinnerung an Deutschlands große Zeit” (In Remembrance of Germany’s Time of Greatness). Before WWI, this expression indicated the period of the Franco-Prussian War, see for instance the 1871 book *Zur Erinnerung an Eine Grosse Zeit. Den Heimkehrenden Siegern Gewidmet* (In Memory of the Time of Greatness: Dedicated to the Winners Returning Home). Already in December 1914, Karl Kraus criticized the media celebration of the cult of war, satirically titling his essay *In dieser großen Zeit* (often translated into English under the title “In these Great Times”) (Kraus 1971).

⁴ My translation, cf. original: “So groß aber auch die Schlachtfelder sein mögen, so wenig werden sie dem Auge bieten. [...] Auch mit dem besten Fernglas würde er nicht viel zu sehen bekommen.” (Hoffmann 1995, 263)

of the camera, which, since WWI, has become a real weapon in the armed conflicts (Holzer 2003; Jäger 2007; Vogler 2020). In this context, German scholarship (Paul 2004; M. Köppen 2005; Encke 2006; Glasenapp 2007) has also critically tackled Ernst Jünger's anticipatory interpretation of photography as a modern technology of vision within the military mobilization of the entire society (Jünger 1930b, 2015). The use of photography for gathering information on the enemy (visual intelligence) accompanied the two other traditional lines of research concerning visual representations of WWI, namely the soldiers' use of the camera for creating private memories (sentimental value), and the institutional circulation of photographs for influencing public opinion and boosting the morale of troops (propaganda). In Germany, these studies are mainly inscribed into a media history of the war (Riha 1980; Dewitz 1989; Paul 2004; Brocks 2008; C. Kemp 2014; Hüppauf 2015). Academic journals, like *Fotogeschichte*, have dedicated entire issues to the cultural history of WWI photography, e.g., *Krieg und Fotografie* (no. 43, 1992) and *Der Weltkrieg der Bilder. Fotoreportage und Kriegspropaganda in der Illustrierten Presse 1914-1918* (no. 130, 2013). Moreover, a copious number of exhibitions have been organized in the last decades, thanks also to the WWI centenary: *Die letzten Tage der Menschheit. Bilder des Ersten Weltkrieges* at Altes Museum Berlin (1994), *Der Tod als Maschinist. Der industrialisierte Krieg 1914-1918* at Museums Industriekultur Osnabrück (1998), *Der fotografierte Krieg. Der Erste Weltkrieg zwischen Dokumentation und Propaganda* at Stadtmuseum Tübingen (2014), and *Fotografie im Ersten Weltkrieg* at Kunstbibliothek - Staatliche Museen zu Berlin (2014).

Given the rich German scholarship addressing WWI photography—which, however, remains secondary to studies on photo and film production during periods of the Weimar Republic, the Nazi dictatorship, and the Second World War—the present dissertation explores an underrepresented aspect of this visual history, namely landscape and territorial photography circulating in Germany in the years of war. Since representations of brutality and death were usually censored, one of the main visual categories depicted during WWI was indeed the landscape itself, which was generally understood to be a neutral subject, despite being pervaded by allusive meanings. This type of military photography included unexpected motifs, unknown according to prewar canons. The spread on a large scale of photographic representations included destroyed rural areas in the aftermath of a battle, cityscapes reduced to rubble, toxic environments, and sectioned terrains available to be interpreted and analyzed from the sky. Besides the “lunar landscapes” of Flanders, however, the variety and complexity of photographed landscapes produced in WWI

Germany have been rarely analyzed. Scholars have rather largely focused on other categories of WWI photography: private recordings of military comradeship and propagandistic images of modern weapons and technological artifacts representing the superiority of the German armed forces. Without doubt, these are two important motifs in a general reconstruction of the WWI photographic phenomenon. A third genre, namely the multifarious WWI photographed landscape, has often been neglected due to the ubiquitous interwar propaganda that repurposed only selected WWI visual contents, giving them a new meaning. This operation has produced the current culture of remembrance and has misled some scholars that, according to Nils Büttner, “assign to images a timeless validity” lacking to contextualize the photographs in the original conditions of production, circulation, and reception (Büttner 2014b, 27–28).

In other words, the importance of the landscape as a WWI photographic motif has been investigated only by a minority of articles and book sections. Although the present dissertation naturally takes into consideration these studies, it differs from them in its approach. In fact, this secondary literature has either emphasized top-secret terrain-oriented reconnaissance (Klamm 2014) or empathetic landscape photography found in private albums (Büttner 2014a). None of these landscapes widely circulated in the media during the conflict. Moreover, these studies normally investigate ground-based landscape photography and aerial photography as two separate entities, whereas these two ways of recording land were often proposed close to each other on the pages of WWI illustrated newspapers. To these research tendencies, one should add a series of cultural studies focusing on the military conception of space that has been boosted in the last decades by the so-called spatial turn (Nübel 2014; Daly et al. 2018). These works, however, did not specifically focus on photography and privileged the corporeal experience of soldiers in the military environment. The present study analyzes, instead, the circulation of photographed landscapes in the mass media in the period of the First World War, avoiding excluding a priori visual material that has been initially produced for private, propagandistic, or military reasons. As it will be shown in the next chapters, in WWI the separation between these three contexts (private, propagandistic, and military) is blurred. This work starts from the hypothesis that landscape photography, an artistic genre already popular in the nineteenth century, underwent a major transformation in WWI, as it happened to many other fields of

knowledge and culture. However, in exploring how the landscape was photographically represented in WWI, this research intends to answer a more fundamental question: To what extent have WWI photographic visualities influenced the collective image and understanding of the landscape? In the following part of the introduction, I will present some of the main concepts faced in this study, together with the method of research, primary sources, and structure of the dissertation.

The positional trench warfare not only heavily impacted the actual environment, with kilometers of territories between France and Belgium that still today need to recover from the toxic impact of ammunitions (U. Keller 2013; Bausinger et al. 2007), but it also fundamentally transformed the representations of the natural and urban world. Challenging accepted iconographic schemes, WWI militarized visualities consequently expanded the meaning of the concept of landscape itself. For the first time toxic and irreparably lost landscapes were realized and visualized, while innovative vistas, e.g., aerial photographs taken from high altitudes, changed the perspective on territories. Thus, the transformation of land by means of military-industrial technology corresponded to a modification of the experience, the representation, and the point of view on the landscape. Arguing that the Great War established an important turning point⁵ in the representational canons of the landscape, this study also affirms that the WWI military conflict radically transformed the act of seeing, inaugurating the contemporary understanding of space. Although this figurative transformation of the spatial dimension occurred rather uniformly in Western countries directly involved in the conflict, this research reflects only on the German context. This specific geographical case study allows analyzing an industrial power, Germany, that not only had a central role in the conflict, but it was also one of the primary producers of photo-optical technology, largely applying it to its military technological apparatus. Moreover, it owned an influential philosophical, literary, and artistic tradition (e.g., German Romanticism) in depicting the human-nature relationship (Büttner 2017), which determined a well-defined visual code that was challenged by

⁵ The term “turning point” has been preferred to “rupture” or “change of paradigm;” these last two considered excessively drastic notions. The definition of turning point, as “a time at which a situation starts to change in an important way” (Cambridge Dictionary) well describes the effects of WWI on the public perception and conception of the landscape. Although transformations in landscape iconography were partially forerun in previous conflicts (Crimea War, American Civil War, and Franco-Prussian War), the technological enhancements and the extent of the destruction, visually amplified by the mass media in the first years of WWI, started to determine a broader idea of landscape.

new militarized landscapes and visualities.

Artworks might powerfully show the transformation of the WWI landscape; Otto Dix etchings and triptychs as well as Paul Nash's paintings are famous examples (Cardinal 1989; Wiedmann et al. 1998; Söll, n.d.). Nevertheless, this study positions photography at its core. This choice depends, first, on the fact that WWI was a military event to be photographically reproduced on an international scale. Making the military landscape be perceived from the most different strata of societies at that time, but also to be reproduced over time, WWI photography established a visual collective memory, which persists nowadays.⁶ Moreover, by analyzing pictures that circulated on the printed press during the conflict—namely images that do not have any specific aesthetic value to be inscribed into an art historical discourse (or even recognized into the history of creative photography)—this dissertation relates with the plural field of visual culture. Either considering the Anglo-American attitude at visual culture or the parallel German tradition of the *Bildwissenschaft*⁷ (the first opposes more harshly to art history) the present research follows the entire process of production, dissemination, and reception of photographs. Instead of focusing exclusively on the aesthetic contents of pictures, namely the scenes represented, this study also reflects on the potentialities and limits of the technological system involved in the visual fabrication of meaning.⁸ Therefore, the image is analyzed as a cultural phenomenon. First, the subject of study is not reduced to the fine art circuit of 'high artifacts' but explores vernacular images and everyday visual practices. Second, the interpretation of a picture is strictly related to its technological infrastructure (from the functions of the instruments that produce the images, e.g., the camera, to the mass media that

⁶ The First World War Centenary has been commemorated across the world, and particularly in Europe, through exhibitions, lectures, and academic researches. Europeana, for instance, established a three-year project *Collections 1914-1918*, which made more than 400,000 digitized items from the First World War publicly and freely available online for the first time, while the Luxembourg Centre for Contemporary and Digital History (C2DH) developed the digital exhibition *Éischte Weltkrich: Remembering the Great War in Luxembourg*. Another celebrated event was the public art installation *Piper Blood Swept Lands and Seas of Red* made by artists Paul Cummins and Tom Piper. It consisted of 888.246 ceramic red poppies (WWI remembrance symbol, especially in English-speaking nations) representing the number of British or Colonial servicemen killed in the war, and it was displayed in the moat of the Tower of London from August to November 2014.

⁷ Within the quantity and variety of volumes regarding visual culture and *Bildwissenschaft*, two introductory texts well summarize the genealogies and internal debates of these two practices, offering a rich list of further literature. See Rampley (2012) and Baetens (2012). An interesting comparison between visual culture and *Bildwissenschaft* is also reported by Boehm and Mitchell (2009).

⁸ This approach takes inspiration from David Joselit's "four axes: method, archive, technology, and reception" (Joselit 2007, 31).

disseminates them, e.g., newspapers). Third, the meaning of a visual object is not completely predetermined, but its content is open to the audience's appropriation.

The analysis of visual material conducted in this book tries to respond to these criteria and, in doing so, necessarily borrows and re-elaborates concepts and theories comprehended in disciplines beyond art history and media studies, such as history of technology, military history, geography, and landscape studies. In the last decades, the debate about interdisciplinarity has not only challenged well-established fields of study (art history has been questioned by visual culture and literature by cultural studies), but it has been conceived as the difficult but necessary approach to face the global contemporary challenges, especially the environmental crisis (Emmett and Zelko 2014). Although this study is a historical and iconographic account of militarized landscapes in the age of mechanical reproduction, and not a reflection on the current environmental, social, and digital change, it has been, nevertheless, largely influenced by the criticism that environmental humanities raised about an excessive compartmentalized making of knowledge. Hybrid interdisciplinarity is a characteristic that visual culture and environmental humanities share. From the point of view of detractors, interdisciplinarity is an anarchic *assemblage* and an uncritical *bricolage*,⁹ but, if deeply experimented, it allows a productive conversation among different voices that may unveil unconventional paths of knowledge.

Special attention to materiality is, therefore, an important aspect characterizing this study. Technological elements and material experiences of the early twentieth-century producers and consumers of photos help to place landscape representations within a tangible contest. Furthermore, practical necessities, photo-optical and printing innovations, and technological limitations largely contribute to defining the aesthetic features of photographs. At the turn of the last century, cameras were becoming relatively handy mechanical objects made of metal, leather, and wood, containing sets of portable photographic glass plates or nitrocellulose films. Through a chemical developer, and after the fixing—processing and reloading of the camera were often carried out by the producer itself—the photos were printed on a seemingly smooth surface created by the gelatin silver, which sat on the top of the paper and held the

⁹ Concerning the attack on the field of visual studies, see Rothkopf (1997). In addition, there is also the questionnaire “The Interdisciplinary Project of Visual Culture?” published in October 77 (1996): 25–70. A general critique about transdisciplinary approaches has been made by Patrick Wilson (1996).

black-and-white image.¹⁰ Advertising cameras as modern devices opened to a general public of amateurs (machines of remembrance that accompanied the bourgeois during touristic trips), photographic companies saw in the soldier-photographer a new target customer. However, photographs did not only form albums of private memories but, by means of new technologies like the rotary printing press and the halftone, were incorporated into illustrated magazines, postcards, almanacs, and posters. Each of these media had a specific materiality (color, structure, shape, and design) that responded to a specific purpose (marketing, propaganda, scientific knowledge, information), while words and images often constituted a unitary entity. In this study, thus, photographs are not only considered as indexical representations of something else, but they are also analyzed as three-dimensional material objects with their own “biography” (Bärnighausen et al. 2019). This is particularly important for analyzing articulated photo objects produced by the army, such as photo aerial reconnaissance material. In fact, new techniques of surveillance and recording the enemy positions played an essential tactical role in WWI. Therefore, military photo-optical artifacts (soldier’s cameras, machine gun cameras, rocket cameras, aerial cameras), new photographic techniques (aerial stereoscopy, photogrammetry, mosaic mapping), and visual deception (camouflage) largely challenged military activity, while influencing civilians’ perception and conception of the landscape.

Within the enormous quantity and variety of visual material produced in warfare, this dissertation concentrates on photographs in which the landscape is the principal subject. Within this category, one finds land/sea/aerial/cityscapes, which can be further classified into three different subgenres: private, propagandistic, and utilitarian landscapes. Private and propagandistic photographs represented and symbolically projected meanings into the landscape (alluding to nationalistic, intimate, or familiar feelings), while utilitarian landscapes (e.g., surveilled pieces of land), instead of portraying, recorded land with the aim of finding information, transforming the picture into an intelligence source. However, images taken for utilitarian purposes, like aerial photographs, could later become effective propagandistic tools, or be collected in the private albums of pilots as intimate objects, changing their epistemological status. This dissertation particularly reflects on photographs that were able to

¹⁰ Even though light-sensitive chemicals also started to record color information, black-and-white photographic reproductions dominated the print media until at least the mid-twentieth century.

reach a substantial public audience (passing censorship), rather than investigating photographic material produced for small circles of experts (top-secret military images, scientific visuals, pictures discussed by members of the intelligentsia, etc.). Thus, the imagery analyzed here comprises widely recognized and well-established motifs, not necessarily known for their artistic qualities but mostly because of their vast circulation. These landscape photographs constituted a part of the so-called mass culture or culture industry.¹¹

The modality of perceiving landscape representations in WWI already followed the process that, in the mid-thirties, Walter Benjamin described as “reception in distraction.” This attitude—both interpreted negatively as the Brechtian alienation effect or positively as a “training practice” (*Übungsinstrument*) that avoids contemplation in order to master the technological apparatus, offering critical possibilities while giving pleasure—is a defining feature of the modern sensory experience.¹² The observer/spectator/consumer consciously or unconsciously absorbed new printed visual schemes, which inevitably shaped iconography and cultural memory. Thus, the transformation of the “way of seeing” the landscape, determined by the circulation of militarized visualities, was realized after an overall *training of the eye*, namely the society’s assimilation of a new variety of imagery. Expressions like “seeing is a matter of practice!” (*Sehen ist Uebungssache!*) and “arming the eye” (*Bewaffung des Auges*), which circulated in WWI German press, not only testify that the camera became a machine able to see, control, and master the territory (surveillance), but also, as Foucault described, that “people are much less free to see than they think” because they are subjected to constraints and power categories that discipline them (Rajchman 1988, 93).

The debate about power and limit of vision, which will be explored in the next chapters in relation to the observation of WWI landscapes, is clearly in dialog with the idea of “historical construction of vision” discussed in Jonathan Crary’s book *Techniques of the Observer* (1990). What regulates the modes of

¹¹ This terminology came from the debate within the Frankfurt School, particularly with the publication of *Dialectic of enlightenment* (Horkheimer and Adorno 2002, 107). Max Horkheimer and Theodor W. Adorno coined the term “culture industry” to indicate that pop culture serves to gain political and economic control over mass society, manipulating it into conformity and passivity. This approach contrasted the Benjaminian and Brechtian idea of the popular arena as a potential site to spread signs of resistance.

¹² See Walter Benjamin *The Work of Art in the Age of Its Technological Reproducibility* (third version, 1939): “Reception in distraction [Die Rezeption in der Zerstreuung]—the sort of reception which is increasingly noticeable in all areas of art and is a symptom of profound changes in apperception—finds in film its true training ground [Übungsinstrument]” (Benjamin 2003, 40–1). For an analysis of the concept of “Die Rezeption in der Zerstreuung” in Benjamin’s philosophical thought, see Eiland (2003).

vision of specific cultures in a determined timeframe was also addressed in the influential collection *Vision and Visualities* edited by Hal Foster (1988), with articles of prominent intellectuals and art historians. In addition to sight as a physical operation (vision), Foster explains, sight may also be interpreted as a “social fact” (visuality). Thus, it is possible “to historicize modern vision, to specify its dominant practices and its critical resistances,” but also to explore the “different scopic regimes of visuality” in a certain epoch and define where and how the “gaze” in specific circumstances is placed (*ibid.*, ix–xiv). Scholarship has often analyzed visuality and cultural memory, investigating either the technical apparatus (Foucault, Crary) or the representation motifs (Warburg, Brecht, Jünger).¹³ The present study strikes a balance between the historical and material analysis of devices and practices on the one hand and an exploration of the iconographic themes constituting WWI landscape representations on the other.

To sum up, starting from this book’s title, *visuality* is a key concept in the present research, together with another central idea, the *landscape*. Two accompanying terms, the adjectives *photographed* and *militarized*, further specify that the subject that is going to be investigated is warfare filtered through photography. In fact, the present study explores modes of vision in WWI and describes the ways in which the military influenced well-established canons of imagining, representing, and perceiving the landscape in Germany. The modification in the schemes of WWI landscape depictions, which profoundly affected the following debates about the relation between humans and the environment, makes WWI an explicit moment of transition between two distinct epistemological and aesthetic conceptions of the landscape. The ending titles of every section of this work indicate this metamorphosis by means of the prepositions “from . . . to” (1.3 *From Kriegsmaler to Artificial Eye*, 2.3 *From Landscape to No Man’s Land*, 3.4 *From a Bird’s-Eye View to the God’s-Eye View*). After the introductory chapter, the dissertation is divided into two main sections. The first part analyzes depictions of the ground warfare (*Landkrieg*) that are described as emphatic representations. The second part investigates the aerial

¹³ I distinguish two approaches in the analysis of visuality: one focuses on the techniques of the observer, the other reflects on the motifs of the representations. For the technological approach, see Michel Foucault’s *Discipline and Punish: The Birth of the Prison* (1995) and Jonathan Crary’s *Techniques of the Observer. On Vision and Modernity in the Nineteenth Century* (1990). For the representational approach, see Bertolt Brecht’s *War Primer* (2017), Ernst Jünger and Edmund Schultz’s *Die veränderte welt. Eine Bilderfibel unserer Zeit* (1933), Aby Warburg’s *Bilderatlas Mnemosyne. The Original* (2020).

warfare (*Luftkrieg*), which produced, for the first time, totally abstract depictions of the terrain, placing the point of view vertically in the sky. In World War I, the land was in fact photographed from “above” as well as from “below.” The juxtaposition of these images in the press determined a continuous tension between the abstraction provided by vertical aerial views and empathetic representations of the battlefield at ground level.¹⁴ These two tendencies of WWI landscape photography, empathetic and abstract, clearly emerge by analyzing primary sources. The third volume of the *Großer Bilderatlas des Weltkrieges* (Great Picture Atlas of the World War), for instance, perfectly exemplifies not only the large quantity of landscape photographs published during the war but also these two styles in representing the combat zones (Konsbrück 1919). Moreover, this subdivision refers to the famous work of the art historian Wilhelm Worringer, who wrote in 1907 *Abstraktion und Einfühlung: ein Beitrag zur Stilpsychologie*. In *Abstraction and Empathy*, considering different periods of European arts, the author distinguishes between art that takes pleasure in creating some recognizable simulacrum of three-dimensional space (the “real” space) and art that suppresses that spatial illusion in favor of something flat and abstract. Abstraction and empathy are the two fundamental impulses known to cultural experience and the two poles of the artistic practice, which Worringer explains in these terms: “We found the need for empathy and the need for abstraction to be the two poles of human artistic experience, in so far as it is accessible to purely aesthetic evaluation. They are antitheses which, in principle, are mutually exclusive. In actual fact, however, the history of art represents an unceasing disputation between the two tendencies” (Worringer 1907, 45). Although Worringer studied artworks from the Antique to the post-Christian era, his book gained immense popularity among intellectuals and artists at the beginning of the twentieth century. The present research implicitly reflects on this “psychology of style” in relation to the modalities that the WWI German propaganda employed, consciously or unconsciously, in distributing militarized landscape depictions, aiming at constructing two aesthetic tendencies (empathetic and detached) towards war.

¹⁴ Starting from WWI, these two levels of making war have never ceased. It is interesting to notice that contemporary articles about drone warfare still refer to “view from above and view from below.” See *The view from above (and below): A comparison of American, British, and Arab news coverage of US drones* (Sheets et al. 2015).

1.1 Expanding the Categories of Landscape

The historian Christoph Nübel structured his 2014 book *Durchhalten und Überleben an der Westfront: Raum und Körper im Ersten Weltkrieg* (Endurance and Survival on the Western Front: Space and Body in the First World War) on three historical spatial layers that served him to describe the German soldiers' experiences in WWI. The tripartition distinguishes between *Umwelt* (environment), *Gelände* (terrain, area, or site), and *Landschaft* (landscape). The environmental layer describes the meteorological, climatic, geographical, and physical conditions that soldiers had to cope with, while the area (*Gelände*) is intended as a specific combat zone of the Western Front subjected to military discipline that required the trained behaviors of the troops. Finally, following Joachim Ritter's theory (Ritter 1963), Nübel delineates the landscape as a historical space valued by a "feeling and perceiving observer" who lets the surroundings act on him (Nübel 2014, 12–13).¹⁵ In this last section, the author puts in relation prewar visual conventions in understanding, picturing, and remembering places with the disturbing alteration of destroyed and foreign lands as it appeared to soldiers' perception. The tripartition of Nübel's book—one of the few works entirely dedicated to WWI cultural history of space—allows tracing similarities and differences with the way the present study interprets the concept of landscape.

The most important discrepancy with Nübel's approach, who based his research on the corporeal experiences of human beings in the military environment (mixing a variety of sources), consists in focusing exclusively on photographic representations of spaces and places. This choice implicates a transfiguration of the 'real' environment. Therefore, in this study, places are neither read through the sensorial body nor analyzed by means of purely scientific disciplines such as ecology, biology, medicine, and geography. Instead, the landscape is conceived from an aesthetic point of view, exploring how its visual values have been constantly remodeled over time. Admitting that the aesthetic norms for interpreting natural, rural, and urban environments changed in WWI also signifies considering the landscape as "nature perceived through culture" (Assunto 1973; Wrede and Adams 1991; Schama 1995, 61; Turri 1998; Cosgrove and Daniels 2008, 1; D'Angelo 2010, 12). The iconography of landscape is therefore always influenced by history, memory, tradition, identity,

¹⁵ Cf. also: "Landschaft ist Natur, die im Anblick für einen fühlenden und empfindenden Betrachter ästhetisch gegenwärtig ist [...]." (Ritter 1963, 150)

and ideology.¹⁶ If the environment (Umwelt) is not the subject matter of the present study, the other two elements in Nübel's text, *Gelände* and *Landschaft*, are considered as a unified element. Instead of being distinctly separated, area and landscape constantly interact in the visually mediated panorama of WWI. The photographic canons of the German landscape are, in fact, not only challenged by the WWI visualities, but the visual concept of the landscape itself enhances its meanings by opening to a new variety of subjects, compositions, styles, and representation modes.

This research explores the diversification of the notion of the landscape into new forms of representation, which started to appear at the beginning of the twentieth century. This transformed iconographic vocabulary emerged from the combination of the actual transformation of land, caused by catastrophic consequences of WWI, and new technological recording methods that allowed photographic depictions of places to largely circulate. This introductory section places the empirical analysis of the WWI photographic phenomenon, which will be discussed in the following chapters, in the preexisting German visual context. Landscape was already a central subject in Germany, even before the outbreak of the war. In order to understand its role in German society, it is necessary to give some insights into the historical evolution of the landscape idea.

Even though the term assumed a plurality of scientific and cultural connotations in the last century, the history of the landscape as an aesthetic concept explains the inevitable correlation between the idea and its visual representations (first pictorial, then photographic and cinematic). In the Middle Ages, the Germanic derivation of the word landscape (the German *Landschaft* and the Dutch *Landschap*) meant an administrative unit, an inhabited territory, a plot of ground, or a region: namely a concrete piece of land subjected to legal, economic, and political regulations (Gruenter 1975; Jackson 1984, 5–8; Franceschi 1997). However, in the early sixteenth century, the word changed its meaning, starting to indicate not the concrete piece of land but its pictorial representation. The earliest German evidence of this new use of the word is

¹⁶ Other popular interpretations of the landscape idea have been given by cultural geographers like J. B. Jackson and Denis Cosgrove. “The formula *landscape as a composition of man-made spaces on the land* is more significant than it first appears [...] a man-made system of spaces superimposed on the face of the land, functioning and evolving not according to natural laws” (Jackson 1984, 7–8). “Landscape is a way of seeing that has its own history, but a history that can be understood only as part of a wider history of economy and society [...]” (Cosgrove 1984, 1). Recently, landscape theorist Michael Jakob has summarized the concept of landscape in the formula: $P = S + N$, namely the sum (relation) of subject and nature is the landscape (Jakob 2009).

reported in Albrecht Dürer's diary. Visiting the painter Joachim Patinir on May 5, 1521, Dürer referred to the Dutch artist as "master Joachim, who is a good painter of landscape" (maister Joachim, der gut landschaft mahler) (Büttner 2017, 350). Thus, the new specification of the word originated from the establishment of the landscape as an autonomous subject in painting. Instead of solely composing the background of figures, the landscape became in that period an independent art, recognized both in Southern and Northern Europe.¹⁷

The contemporary definition of the landscape is "a portion of the earth's surface that can be comprehended at a glance" (Jackson 1984, 3–8). This meaning does not necessarily indicate art pieces or pictorial depictions; it may simply signify the external aspect of a territory as it appears to an observer's gaze, e.g., *land* seen from a tower and noticed for its characteristic shape (*-scape*) and external features. However, many studies have highlighted that considering a concrete territory through the category of landscape is the direct consequence of the development of the landscape as an art genre (Gombrich 1966; Cosgrove 1984, 16–17).¹⁸ Only when the painter started to compose the landscape on canvas, the observer learned to mentally construct a piece of "nature" as a landscape.¹⁹

In the 18th century, the idea of landscape was increasingly applied to urban scenes, and the so-called *vedute* (views) portrayed the topographical aspects of the urban space. Natural, rural, or urban, the landscape began to be formally described with the "unity of subject." In art, the definition of the landscape as a unified whole became a popular aesthetic theory thanks to William Gilpin's analysis of the picturesque (Gilpin 1792, 7). A fundamental publication for the philosophical interpretation of the landscape has been, instead, Georg Simmel's essay *Philosophie der Landschaft*. Similarly, Simmel described the landscape using words like "boundary" (*Abgrenzung*), "separate unity" (*Ausschnitt als Einheit*), "self-sufficient unity" (*selbstgenügsame Einheit*), and "a status for itself" (*Für-sich-Sein*): "To conceive of a piece of ground and

¹⁷ Regarding the development of Flemish and Dutch landscape painting and its relation with the Italian Renaissance see Gombrich (1966), Alpers (1983), Gibson (1989), and Michalsky (2011).

¹⁸ In particular, Clark (1949), Gombrich (1966), and Cosgrove (1984, 1985) regard the conceptualization of the landscape – namely the external aspect of a territory perceived by a single individual – as the direct consequence of the establishment of landscape painting as an art genre. However, philosophers, one of the most influential was Georg Simmel, have theorized that artistic production is the last step of human beings' intrinsic capacity to aesthetically categorize nature as landscape (Simmel 1913a). Another essential criticism of Gombrich's assumption (et. al.) came from W. J. T. Mitchell (1994).

¹⁹ The art historian Bernard Berenson wrote that "space composition" is the "bone and marrow of the art of landscape" (Berenson 1952, 121).

what is on it as a landscape, this means that one now conceives of a segment of nature itself as a separate unity, which estranges it from the concept of nature.” However, Simmel also recognized that the limitation of the landscape “is nevertheless intermeshed with an infinite expansiveness.” (Simmel 1913b, 21–22).²⁰ Delineating in a picture the aperture of space is probably the reason for the diffusion of the horizontal format for landscape painting, which only rarely has been disregarded.²¹ The recognition of a piece of the world as a landscape also implied that the individual viewer did not participate in the scene but contemplated it from the outside.²² In other words, the landscape started to signify an object seen by an active subject able to creatively frame and create the landscape either on canvas or in mind.

The previous part has briefly introduced the aesthetic origin of the landscape: a visual term, and together a concept, that inseparably links a real territory with its representation (producing either an artistic picture or mental image). Retracing the main stages of the landscape idea in visual arts helps to explain the aesthetic conventions that landscape photography initially followed and later contrasted. Before specifically focusing on the German landscape tradition and its photographic sensibilities, it is necessary to further explore the period largely regarded as the foundational source of the Western idea of modern landscape, namely the European Renaissance.²³

According to geographers (Cosgrove 1984; Besse 2000; Pickles 2003), as well as to art historians (Alpers 1983; Michalsky 2011; Gehring and Weibel 2014; Büttner 2017), the modern sense of landscape painting should be read in

²⁰ Cf. original: “Ein Stück Boden mit dem, was darauf ist, als Landschaft ansehen, heißt einen Ausschnitt aus der Natur nun seinerseits als Einheit betrachten - was sich dem Begriff der Natur ganz entfremdet. [...] eine in sich geschlossene Anschauung als selbstgenügsame Einheit empfunden, dennoch verflochten in ein unendlich weiter Erstrecktes, weiter Flutendes [...]” (Simmel 1913a)

²¹ “Portrait orientation” and “landscape orientation,” terms coming from visual art, are the two most common positioning of a rectangular shape. These expressions are still employed nowadays to describe video and photography display options. The art historian Christopher Wood highlighted that the horizontality in landscape paintings of the sixteenth century implicitly referred to the terrain (land) present in the word “landscape.” With their high horizons, Dutch and Flemish landscape paintings were, for instance, an homage to this element. Moreover, the horizontal format allowed the pictorial surface of the Earth to be read and discovered. Albrecht Altdorfer’s vertical paintings are an exception (Wood 2014, 55–56).

²² An evidence of the external position of the viewer in contemplating the landscape is represented in many works of Pieter Bruegel the Elder, e.g., into the series of twelve prints known as *The Large Landscapes* (Besse 2000, 37–50).

²³ In the last decades, an increasing number of studies have downsized the “birth” of the Western landscape idea in the European Renaissance, highlighting nonlinear and nonrepresentational geographies. See W. J. T. Mitchell (1994), Olwig (2008), della Dora (2013), and Simon (2013).

relation to a different conception of space developed in the Renaissance. This new spatial understanding particularly emerged in urban centers (e.g., Florence, Venice, and Antwerp) where merchant capitalism, navigation, and exploration induced the rediscovery of Ptolemy's cartographic and chorographic science. The coexistence of artistic and geographic knowledge is evident, for instance, in the publication of the *Civitates Orbis Terrarum* (1572-1617). This six-volume city atlas, edited by Georg Braun and largely engraved by Franz Hogenberg, was a project that involved many artists and cartographers. It contained over five hundred representations of towns: realistic landscape drawings, maps, bird-eye views, and profiles.

The emergence of a new mapping culture emphasized the laws of geometry and the practices of measurement. Just as the mathematical projection of the spherical globe was reported on a bidimensional gridded surface, the techniques of linear perspective gave "the eye absolute mastery over space" and responded to the needs of the human individual: creator and controller of his world (Cosgrove 1985). Thus, the landscape emerged from the experience of the urban bourgeoisie and the development of new technologies of visions, mapping and linear perspective, that had in common the domination over space. This interpretation of the landscape in the Renaissance has been largely inspired by the art historian Erwin Panofsky who in 1924 commented on the "fully rational," and "purely mathematical space" of linear perspective in this terms: "the history of perspective may be understood with equal justice as a triumph of the distancing and objectifying sense of the real, and as a triumph of the distance-denying human struggle for control" (Panofsky 1927, 67). Just like the illusion of depth was produced by the "systematic abstraction" of linear perspective, the wish to construct the pictorial space has been understood as the intent of mastering the environment. Along these lines, the geographer Denis Cosgrove (1985, 55), among many others, linked the modern landscape idea with the "physical appropriation of space as property," while the theorist of media and visual art W. J. T. Mitchell (1994) found an intimate connection between the historical formation of the landscape and the discourse of European imperialism.

Admitting that realism is not essential in defining visual representations of the landscape allows the present study to call landscapes also pictures emerging from the militarized visualities of WWI: destroyed and toxic lands, explosions, rubbles, exploited territories, analyzed sections of the terrain, and even aerial views. Even though a part of these pictures was initially produced for

military and surveying purposes, the fact that they highly circulated in the media as propaganda, together with more traditional landscapes, reinforces the opinion that these photographs cannot be simply defined “territorial photography.”²⁴ Instead, they actually contributed to extending the category of landscape to subjects and styles hardly considered as such before WWI. This implies, however, an important distinction from Simmel’s and Ritter’s positions, in which the landscape is interpreted as nature contemplated “with sentiment,” free from practical concerns, utilitarian employment, and war strategies (Ritter 1963; Simmel 1913a).

The previous considerations contribute to further clarify why the present study does not distinguish between *Gelände* and *Landschaft* (area and landscape); a diversification that other authors, such as Christoph Nübel, have carried out. Analyzing WWI photographic representations forces to familiarize with the idea that photographs (since the mid-1860s used as utilitarian and scientific tools) were employed for military and documentary aims, being at the same time appreciated in the press for their aesthetic, memorial, and emotive attractiveness. This is also the case of aerial photography, which was debated if being considered or not a landscape since its first experimentation phase. In 1885, for instance, the British art critic Philip Gilbert Hamerton in his book *Landscape* described an imaginary descent of the Archangel Raphael on the Earthly Paradise, comparing it with popular aerial views from balloons.

All this [the view in flight] would be intensely, inconceivably interesting; it would be an unparalleled experience in the study of physical geography, but it would not yet be *landscape*. [. . .] At length, after touching the solid earth, and looking round us, and seeing treeing near us, fields spread out before, and blue hills far away, we should say ‘This, at last, is *landscape*. It is not the world as the angels may see it from midst of space, but as men see it who dwell in it, and cultivate it, and love it.’ (Newhall 1969, 12–15)

On the contrary, the balloonist Thomas Monck Mason in *Aeronautica*, describing a flight made in 1836, reported the “peculiar effect,” the “novel aspect,” and the “unusual manner” in which the “terrestrial landscape” is viewed. These two contrasting passages evidently show that the term landscape has

²⁴ “Territorial Photography” is also the title of a Joel Snyder’s essay (Snyder 1994).

always offered a wide range of interpretations, together with plenty of misunderstandings. This chapter, however, has tried to clarify how a plural concept such as landscape is interpreted in this study. Accepting that the umbrella term “landscape” can incorporate definitions such as pastoral, marine, urban, industrial, military, and even aerial,²⁵ it becomes central in this study trying to discover new motifs, subjects, modes, and styles that WWI landscape photography has introduced. Thus, the last paragraphs of this section present some essential aspects the reader should consider before approaching the visual changes occurring in WWI Germany.

Around 1900, landscape photographic representations were a widespread motif in German publications: both in specialized journals established by photographic associations of amateurs (Photographische Vereine) and in weekly illustrated magazines dedicated to the general public. The popularity of manuals entirely devoted to the realization of landscape photography demonstrated that landscape, together with portrait, was a subject in vogue at that time. The success of Fritz Loescher’s *Leitfaden der Landschafts-Photographie* (Guidelines to Landscape Photography) is an example: it was first published in 1901, reached the fourth edition before the war, and was also reprinted in 1917. Besides focusing on the technical aspects of plate and film cameras, lenses, and developing processes, these kinds of publications particularly stressed the importance of composition in landscape photography. Advising on the correct way to observe a scene (“Hinweise über die Art der Betrachtung”), these volumes guided the readers through an analysis of the landscape based on its essential elements (lines, intersections, tones, contrasts) excluding colors. This process served to identify the most convincing compositions, which might also be completely assembled following the example of the English photographer and pictorialist Alfred Horsley Hinton (Loescher 1901; Weiß 1914).

Dreamy atmospheres of rural landscapes extensively circulated in amateur volumes. This trend was boosted by German pictorialism: a photographic style that evolved thanks to photographers like Heinrich Kühn and the brothers Theodor and Oskar Hofmeister of the *Hamburger Schule der Kunstfotografie* (Hamburg School of Art Photography), who have been influenced by the work

²⁵ It is interesting to notice that Nils Büttner, a German art historian expert in landscape painting, has concluded his tome *Geschichte der Landschaftsmalerei* (Büttner 2006) with Luc Tuymans’ painting *Backyard* (2002), which is an aerial view inspired by the Flemish landscape tradition.

of the art historian Alfred Lichtwark.²⁶ In the book *Die Bedeutung der Amateur-Photographie* (The Importance of Amateur Photography, 1884), Lichtwark proposed amateur photography as fundamental for the social “education of the eye” and the development of an aesthetic taste in German everyday life. By enjoying nature through the senses, instead of knowing it employing historical concepts, the amateur photographers of landscapes were encouraged to exalt the beauty of the German countryside and the simplicity of the pure rural landscape (Priem and Mayer 2017).²⁷ In Imperial Germany, this anti-modern tendency as well as the revaluation of local German sceneries and national landscape identity corresponded to the rediscovery of romantic art, which had in the landscape (permeated by allegorical, spiritual, mystical, and religious meanings) one of its central subject. After the unification in 1871, the pursuit of a well-defined national artistic character led to a new interpretation of the Romantic cultural movement. Alfred Lichtwark himself started to acquire northern German Romantic paintings for the Hamburger Kunsthalle in 1886, contributing to the rediscovery of Philipp Otto Runge and Caspar David Friedrich (Leppien 2006). Moreover, the renovated interest in painters of the Romantic art period was shown in the *Jahrhundertausstellung deutscher Kunst 1775-1875* (Centenary Exhibition of German art), which opened in the Berlin National Gallery in 1906 (Beneke 1999). At the same time, photographic trends were largely influenced by contemporary landscape painting, which by the end of the nineteenth century was characterized by the sentimental style of the Worpswede school (near Bremen), the intimate atmospheres of artists of *Münchner Schule* (e.g., Wilhelm Leibl and Adolf Heinrich Lier), and realist scenes of the German countryside of the *Leibl-Kreis* (Leibl Circle).

Germany became the European continent’s leading industrial power during the Second Industrial Revolution (1870-1914), and technological optimism was predominant in the Kaiserreich. However, the rapid transition from an agrarian and rural society to an industrialized and urbanized one made some middle-class circles consider modernization as the threat to Germany’s historic landscape. In this contest, and especially after the campaign to protect the Siebengebirge, a scenic chain of hills near Bonn, Rhenish preservationists laid

²⁶ A fundamental promoter of pictorialism in Germany was the collector Ernst Juhl, who organized international art photography exhibitions at the Hamburger Kunsthalle. He also founded the *Amateur-Photographen-Verein* (Amateur Photographers Association) and was artistic director of the *Photographische Rundschau*.

²⁷ The sensory-emotional engagement with both nature and culture stressed by Lichtwark reminds the famous Caspar David Friedrich’ claim: “Ein Bild muss nicht erfunden, sondern empfunden sein” (A picture must not be invented but felt) (Carus 2002).

the foundation for the *Naturschutz* and *Heimatschutz* movements (nature and homeland protection associations). A central belief of these movements, which by 1914 counted thousands of members all around Germany, was that German culture was “closer to nature” than other European nations. The landscape, as an active shaper of Germans’ unique natural character, was also typified by natural symbols, such as the forest and the river Rhine, which were sources of national identity (Lekan 2004). On the one hand, Father Rhine was appointed as the geographic birthplace of German national consciousness, especially after the German “Volk” had expelled Napoleon’s armies, refusing the French claim of the river as a natural border. Moreover, photographs of the cultural landscape facing the river Rhine circulated widely, portraying scenic Roman and Medieval ruins and rests of fortresses left in the Thirty Years’ War.²⁸ On the other hand, the German *Waldeslust* (the joy of the forest) was considered part of the German character and, in art history, was typified by Albrecht Altdorfer’s sylvan landscapes. Altdorfer, a member of the Danube school, created the first landscape painting without human presence between 1520 and 1530 (the so-called *Danube Landscape*). Against his contemporary iconographic tradition, he presented the forest and the powerful presence of trees as the dominant element of his vertical compositions (e.g., *Forest Scene with Saint George Fighting the Dragon*). While the dense and intimidating forest painted by Altdorfer stimulated in the sixteenth-century observer the most profound human fears, at the beginning of the twentieth century, the forest was instead a German symbol that needed to be protected.

To prevent the transformation of woods into “conifer factories,” Paul Schultze-Naumburg described forests as “holy cathedrals of German freedom” (Borrmann 1989, 32). The traditionalist architect and painter, who later became a member of the National Socialist Party, emphasized “Germanness” by advocating a correct mesh between technological development and the natural environment. Between 1901 and 1916, Schultze-Naumburg published the influential *Cultural Works* series (*Kulturarbeiten*), which used photography to popularize the ideals of the Wilhelmine *Heimatschutz* organizations introducing landscape, architecture, and urban design solutions (Schultze-Naumburg 1901–16). This book aimed at reforming the “culture of the visual” (*Kultur des Sichtbaren*) by proposing intensive photographic training that did not only target “educated” people but could be extended to the entire population (*Volk*). Through the elevation of sight to the absolute sense of

²⁸ The Rhineland, where many nature protection associations were born, was also the most industrialized part of Germany.

landscape reception, Germans could be guided into a deeper relationship with nature by understanding and contemplating the intrinsic beauty of the local landscapes.

The so far described cultural context also influenced the German press, particularly illustrated magazines, in which landscape photographs followed harmonious pictorial canons. Highlighting the picturesque and poetic characters, landscape photographs typically excluded signs of a rapid industrialization (Rudorff 1880, 261). Columns such as the “Bayerische Städtebilder” in the magazine *Münchener Illustrierte Zeitung* showed detailed Bavarian cityscapes in which urban and natural elements were perfectly balanced. This is also the case with other city landmarks such as the Cologne cathedral, the Heidelberg Castle, the Dresden silhouette with Augustus Bridge, and other towns, villages, and ruins along the rivers Rhine, Elbe, and Danube. Together with national urban and pastoral scenes, foreign tourist destinations close to Germany often appeared in magazines in photographic form. The old fear of remote lands and terror for primordial elements, such as gorges, peaks, and deserts, was replaced by representations of railway lines cutting through the landscape to bring tourists into the Alps. It is the case of articles appearing in popular magazines such as *Die Woche* between 1912 and 1913, which titled: “Die Berner Alpenbahn” (The alpine Bern–Lötschberg–Simplon railway), “Eine neue Touristenbahn im Engadin” (A new tourist railway in Engadin), or “Die Gruselwarte auf dem Hochschneeberg” (The Gruselwarte platform on the Hochschneeberg) (Klinenberger 1912; *Die Woche* 1913; Krenn 1913). Unlike this last denomination (“Gruselwarte”, literary the “scary observation platform”), the 1800-meter viewpoint became easily reachable by tourists at the beginning of the twentieth century, when a rack railway climbed to the Schneeberg plateau where a hotel was located. Thus, representations of the natural sublime, which provoked into the observer the contrast feelings of fear and attraction, were traceable only into a minority of photographs like the “heavy southwest storm in the Bay of Biscay while the Kaiserjacht Hohenzollern sailed to the Mediterranean” or “the terrible sandstorms at the moment it hit the city of Khartoum” (*Die Woche* 1912; *Berliner Illustrierte Zeitung* 1914e).

The type of photographic landscape spread in Germany before WWI was dominated by peaceful and calm rural or urban scenes, which balanced the German fascination for technological innovations in the field of transportation (especially the aircraft industry) that was equally represented in the illustrated

press. The human presence was usually harmonically combined with the natural scene, and the most extreme territories seemed fully accessible by a perfectly efficient, but not visually overwhelming, technology. With the outbreak of WWI, subjects, styles, and points of view on the landscape rapidly changed. The idyllic local landscape was soon replaced by militarized and destroyed landscapes (mainly on the Western Front), which were, however, presented as far away spaces from the German soil. In WWI, the concept of landscape evolved from the traditional canons of the exotic, the sublime, the beautiful, the pastoral, and the picturesque to the new category of the excavated, perforated, lunar, lost, and toxic land. Moreover, pictures of unknown cities and territories in Eastern Europe and in the Ottoman Empire widely circulated in the German press for the first time.

The following chapters will mainly focus on ground and aerial views. Even though the submarine (U-Boot) was a novel technology in modern warfare, and a central subject in WWI German propaganda, marine landscape photographs were underrepresented in the imagery of the Great War (in WWII they will be central instead). This consideration explains the lack of this subject in the present study. Instead of focusing on limited artifacts (airplanes, airships, submarines, tanks), this research tries to understand how the relation between military technology and the preexisting territory has been photographed and proposed in Germany, consequently transforming the idea of landscape itself.

1.2 Aesthetics of War in the German Print Media

The Berlin-based photojournalist Willy Römer photographed the Spartacist uprising of January 1919. Among the pictures that became a symbol of the turbulent period following Germany's defeat in World War I, a snapshot shows the Spartacist militia behind barricades made of newsprint rolls in front of the Mosse publishing house (fig. 1.1). By occupying the printing press, editorial rooms, and storages of the newspapers owned by Rudolf Mosse, which included publications (like the *Vorwärts*) of the Social Democratic Party of Germany, the insurrectionists aimed at silencing their opponents. Even though the paper rolls offered little protection against government troops' firepower, this image indicates that, by the end of WWI, the fundamental role of the press in shaping public opinion was largely recognized. Taking control of a publishing house meant gaining a potential propaganda instrument to be used in political and armed conflicts (Daniel and Siemann 1994). Moreover, the active presence of a photojournalist, such as Römer, to document the revolt testifies to the importance reached by photography as a necessary visual tool for narrating reality (Derenthal et al. 2018).



FIGURE 1.1: Spartacist militia in front of the Mosse publishing house (Berlin), Willy Römer, January 1919.

Willy Römer, who later established one of the leading photo agencies of the Weimar Republic, the Photothek Römer & Bernstein, already started his career as a photographer in 1903, with an apprenticeship at Berliner Illustrations-Gesellschaft (Kerbs 2004). Founded at the turn of the century, this was one of the first international German agencies specialized in photography for the press, and, together with the Leipziger Presse-Büro, it also furnished publishing houses with images of warfare between 1914 and 1918.²⁹ Because many professional photographers (but also amateurs) worked for photo agencies during the war, photographs published in that period rarely reported their authors' names. Rather, newspapers and magazines mentioned the photo agency that furnished the pictures. Unlike the snapshots taken by well-established war photographers in the Second World War (e.g., Robert Capa, Margaret Bourke-White, and Dmitri Kessel), official photographs circulating in the WWI press are of difficult attribution. However, for the first time during WWI, people could see and read about the international conflict almost as it happened (Carmichael 1989, 4). Before analyzing the limitation, control, manipulation, circulation, and expectation of official photography in WWI, it is necessary to introduce the role of the German print culture in the years preceding the war. In doing so, the example of the Ullstein Verlag, one of the largest publishing firms in Germany, helps to contextualize the text-image relationship before the outbreak of WWI.

Together with other Berlin publishers, such as Rudolf Mosse and August Scherl, the Ullstein Verlag (founded by Leopold Ullstein in 1877) dominated the prewar German newspapers market. Print journalism constituted the predominant medium of mass communication until the 1920s (Führer and Ross 2006). The Ullstein Verlag issued successful daily newspapers,³⁰ book series, and also the first German daily tabloid (Boulevardzeitung) *Berliner Zeitung am Mittag*. In addition, Ullstein also launched the prototype of the modern illustrated magazine, the famous *Berliner Illustrierte Zeitung (BIZ)*. Bought by Ullstein in 1894, this mass-market weekly magazine responded to the public demand of being informed through realistic pictures by systematically incorporating photographs into written articles. In Germany, the first illustrated magazine that focused on photographs was the *Leipziger Illustrierte Zeitung*. Since

²⁹ The Berliner Illustrations-Gesellschaft supplied the publishing house Ullstein, which offered a wide range of products, while the Leipziger Presse-Büro furnished magazines that appeared in Southern Germany and Austria-Hungary (Neumann 2014, 46).

³⁰ Famous newspapers published by the Ullstein Verlag were the *Berliner Morgenpost*, the *Berliner Zeitung (B.Z.)*, and the *Vossische Zeitung* (acquired in 1914).

its first issue in 1883, the *Leipziger Illustrierte Zeitung* used Georg Meisenbach's relief halftone process for reproducing photographs.³¹ This printing process replaced long and expensive manual techniques, like woodcuts or wood engravings, allowing the accurate reproduction of photographs within the text and increasing the number of visual materials in a single issue. Meisenbach's technique laid the foundation for the spread of illustrated magazines in Germany.

By the turn of the century, the *Leipziger Illustrierte Zeitung* could not compete with the *BIZ* in terms of price and circulation rate (Weise 1991, 20).³² The Berlin magazine had reduced the number of pages for a single issue and paper production cost. As the readership of illustrated newspapers grew, it became necessary to speed up the illustrated magazines' printing process. Hence, in 1902, the Ullstein company introduced an important innovation into the magazine's typographic production: a rotatory press printed the entire sixteen-page issue (images and text together). Until the end of the nineteenth century, printing images still required typographic flat-plane machines, since cylindrical halftone blocks were considered too laborious to produce. In the second decade of the twentieth century, thanks also to Eduard Mertens's invention called rotary photogravure—which photographed both the text and the pictures onto a cylinder—the number of illustrated magazines and publications that included images multiplied. The first two publications that used this technique were the newspaper *Freiburger Zeitung*, starting from 1910, followed by

³¹ Georg Meisenbach patented halftone-etching (in German *Autotypie*) in 1883. The technique consisted of breaking up an image into a series of differently sized dots that simulated the various tones of gray of a photograph when seen from a distance. The smaller the points were, the lighter the tone appeared, while the larger the points, the darker the area was visualized. The subdivision of the original picture in dots was realized by a screen (*Raster*) inserted over the plate being exposed. Meisenbach's linear screen was twice rotated by 90 degrees during exposure to produce cross-lined effects. Then the halftone negative made of dots was transferred onto a zinc plate covered by a photosensitive coating. The negative and the plate, placed next to each other, were pointed to a light source. The areas reached by the light hardened, becoming acid-resistant. Dipping the plate in a bath of acid (known as *mordant*), the exposed areas were susceptible to chemical etching, which, biting the metal, created a depression that did not receive ink during the printing. In 1892, Georg Meisenbach established the society Meisenboch-Rifforth & Co. with subsidiaries in Munich, Leipzig, Dresden, and Berlin. Together with the Georg Büxenstein & Co. of Berlin, at the turn of the century, it became one of the leading producers of halftones in Germany. For a deep analysis of Meisenbach's invention see Peters (2007), while the international development of the halftone is amply described by Stulik and Kaplan (2013).

³² The *BIZ* was one of the most competitive illustrated magazines in the German market. During the war, a single issue of the *BIZ* cost 10 Pfennig, while its Berlin competitor, the magazine *Die Woche*, cost 25 Pfennig. The price of the *Münchener Illustrierte Zeitung* was 15 Pfennig, while the *Leipziger Illustrierte Zeitung* cost 1 Mark, but it included some reproductions of paintings printed in color and a higher number of pages.



FIGURE 1.2: Newspaper salesman in Berlin around 1910, unknown photographer (Weise 1989, 26).

the illustrated magazine *Das neue Bild* in 1912 (Weise 1991, 7).

Three factors determined the popularity of the *BIZ* outside the city of Berlin: editorial staff specialized in visual sources (*künstlerischer Beirat*), internal independent production unit, and strategic distribution policy. The periodical offered free delivery and subscription-free sales: in 1904, single issues of the *BIZ* started to be sold by street vendors rather than through monthly subscriptions, introducing a new form of retailing (fig. 1.2). Without a solid subscription basis, the selling of the magazine relied on attractive headlines, eye-catching design, and photographic sensationalism. Instantaneous photography contributed to realizing this last goal, recording events while they were unfolding and producing vivid snapshots.³³ Moreover, the *BIZ* made intelligent use of self-promotion while entertaining the public. It celebrated the record number of copies sold in specific years through posters (fig. 1.3)

³³ Instantaneous photography (in German *Momentfotografie*) was made possible by Dr. Richard L. Maddox's invention of the gelatin process, which allowed to manufacture gelatin dry plates (1871). This process was improved by Charles Harper Bennett in 1878 and became a practical method to take pictures on expeditions, trips, and excursions, avoiding carrying portable darkrooms. Another innovation allowing the popularization of instantaneous photographs was the development of fast shutters boosted by experimentations in chronophotography, carried out in Germany by Ottmar Anschütz in the 1880s (Weise 1991, 14–15; Eisermann 2000, 23–31).

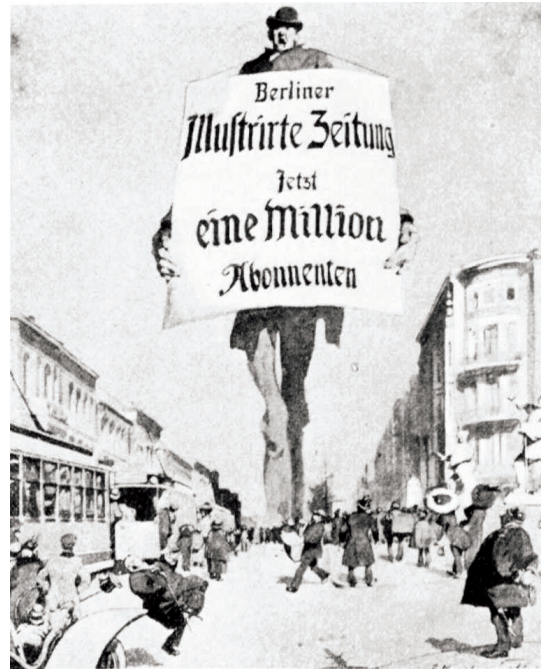


FIGURE 1.3: Fritz Koch-Gotha's poster announcing the first million *BIZ* subscribers in 1914.

and reminded its readership of the anniversary of the magazine's foundation through dedicated articles that explained the behind-the-scenes preparation of the magazine. Even in the middle of the conflict, in December 1916, the editorial board of the *BIZ* proposed the article "How an image print is created in the 'Illustrierte': From the photograph to the printing block" to commemorate the twenty-fifth anniversary of the magazine foundation (fig. 1.4, 1.5).³⁴ This kind of content aimed at highlighting the constant technological development expected by a "modern" newspaper, which addressed the shift of German society towards a restless lifestyle ("Leben unruhiger wurde") in the urban environment. This transformation determined a new visual attitude. According to the *BIZ* editor-in-chief Kurt Korff (Kurt Karfunkelstein), "In a time in which living life 'through the eyes' began to play a more central role, the demand for visual illustration had become so strong that one could hardly avoid using images themselves as conveyors of news. That meant a totally new relationship to the visual image" (Ross 2008, 30).³⁵ Photographs in the press offered a direct, instantaneous, and intense experience of the events, condensing the message persuasively. By 1914, photography was not only

³⁴ See: "Wie ein Bildabdruck in der 'Illustrierten' entsteht: Von der Photographie bis zum Druckstock." (*Berliner Illustrierte Zeitung* 1916i)

³⁵ Cf. the original passage: "Aber erst in einer Zeit, in der das Leben 'durch das Auge' eine stärkere Rolle zu spielen anfang, war das Bedürfnis nach visueller Anschauung so stark geworden, daß man dazu übergehen konnte, das Bild selbst als Nachricht zu verwenden. Das bedeutete eine vollkommen neue Einstellung dem Bilde gegenüber." (Osborn 1927, 290)



FIGURE 1.4: Celebration of the 25th anniversary of the BIZ in 1916 (Hermann 1916, 803–4).

regarded as a suitable medium for reporting news, but it did so by giving a sense of authenticity.

Satisfying this new attitude of the German society, the *BIZ* reached national appreciation, selling one million copies during the war and becoming the first mass-market German magazine.³⁶ These features make *BIZ* the perfect primary source to study how the aesthetics of war spread among the German population through the print media. In the present book, the *BIZ* issues published during WWI have been systematically investigated and compared to the Berlin competitor magazine: August Scherl's *Die Woche*. Founded in 1899, *Die Woche* was modeled on American publishing and, compared to the *BIZ*, remained conventional in content and design: a refined red cover, large-format photographs elegantly composing on the pages, and little interaction between images and texts. In analyzing these two magazines, it is essential to also consider the issues published in the years 1912-1913 and 1919-1920. Comparing issues of the same magazine published before and after WWI serves to evaluate potential changes in iconography and composition determined by war. Besides

³⁶ By 1914, even workers could afford the *Berliner Illustrierte Zeitung*. Moreover, the *BIZ* was the forerunner of many international magazines, directly influencing the development of America's first picture magazine *Life*. The *BIZ* editor Kurt Korff, a German Jewish who emigrated to the US, worked in fact as a consultant for Henry Robinson Luce in 1935-36, when the American magazine magnate was relaunching *Life* (C. Z. Smith 1988).



FIGURE 1.5: Article dedicated to the behind-the-scenes production of the magazine (*Berliner Illustrierte Zeitung* 1916i, 805–6).

these two major publications, this research investigates WWI German visual culture through the *Münchener Illustrierte Zeitung* (*MIZ*), an illustrated magazine published in Southern Germany. The *MIZ* was less cosmopolitan than the magazines published in Berlin. However, the idea of distant imaginaries (*die Ferne*), which the German audience could admire thanks to photography, counterbalanced the *MIZ* local character and attachment to the *Heimat* (homeland) shown in its articles and landscape photographs. Leipzig was the third important urban and economic center that offered a relevant segment of consumers of illustrated magazines. This research, however, does not explicitly focus on the *Leipziger Illustrierte Zeitung* since Thilo Eisermann (2000) has already comprehensively studied this German magazine in the period of WWI, comparing it with the French *L'Illustration*.

The postcard industry was the only other photographic sector that could compete with the illustrated magazines' iconographic language, thanks to its capacity to reach all strata of the population. The period between 1895 and 1918 is considered the "golden age" of the illustrated postcards (Walter 1995, 10–51). By the turn of the century, postcards were an economical medium used to send short written messages, and their international size was set to 105 × 148 mm. Moreover, people started to collect them in albums since photographs

of sceneries from all over the world were printed on one side of postcards. The section of this book 2.2 *Feldpostkarten: Cityscapes, Ruins, Rubble, and the Innere Landschaft* describes in detail the circulation and motifs of WWI illustrated postcards, comparing them to previous standards. Here it is enough to say that postcards and illustrated magazines were the two principal media used for spreading photographic representations in the first two decades of the twentieth century, and, therefore, they represent two fundamental sources in this research.

Public interest in photographic reports further increased at the outbreak of WWI, with an increasing request from the home front and soldiers abroad. The major publishing houses designed specific products to narrate the conflict, which combined both written and visual features. In 1914, the Ullstein Verlag launched the series *Kriegsbücher*³⁷ and a new illustrated magazine *Die große Zeit: Illustrierte Kriegsgeschichte*. Using the pages of the *BIZ* to advertise war-related publications, Ullstein launched the new product as follow: “Based on authentic reports and documents, supported by a wealth of pictures and supplements, ‘Die große Zeit’ [The Time of Greatness] gives a comprehensive and witnessed history of the greatest of all wars. It is a work that will delight children and grandchildren too. ‘Die große Zeit’ is published in 8 to 14 days periodical issues, which are also available individually for 30 Pfennig.”³⁸ Similar publications multiplied in the war’s years, including, among the most popular magazines, titles like *Deutsche Kriegszeitung*, *Illustrierte Kriegs-Zeitung/Das Weltbild*, *Illustrierte Geschichte des Weltkrieges*, and *Illustrierter Kriegs-Kurier*. The latter was published by the Foreign Office and distributed in neutral countries.

By the end of the war, the growing demand for photographic reports and the absence of international competitors benefited the already established German publishing houses. However, publishers also lamented difficulties in carrying out their work in wartime. The shortage of primary resources (paper, etc.)

³⁷ *Der rote Kampfflieger* (The Red Fighter Pilot) by the famous German ace Manfred von Richthofen (1917) is among the *Kriegsbücher* published by Ullstein Verlag. The publishing house August Scherl also advertised a series of war memoirs using the pages of its illustrated magazine *Die Woche*. Photographs often illustrated these volumes, as demonstrated by the landscapes and aerial pictures included in *Als Kampfflieger am Suez-Kanal* that narrated the experience of the pilot Hans Henkelburg in Egypt (1917).

³⁸ My translation; original: “Auf Grund authentischer Berichte und Dokumente, unterstützt durch reiches Bilder- und Beilagenmaterial, gibt ‚Die große Zeit‘ eine vollständige, aus der Miterleben heraus entstandene Geschichte dieses größten aller Kriege. Sie bildet ein Werk, das auch Kinder und Enkel noch erfreuen wird. ‚Die große Zeit‘ wird in 8- bis 14tägig erscheinenden Heften ausgegeben, die auch einzeln erhältlich sind für 30 Pfennig. Verlag Ullstein & Co – Berlin und Wien.” (*Berliner Illustrierte Zeitung* 1914c, 806)

and staff determined the stagnation in the publishing market during the initial phase of the conflict. Moreover, the paranoid rules of the German censorship enormously influenced the agenda and the quality of the press, limiting the coverage of war events (Weise 1991, 38). Georg Bernhard, director of the Ullstein publishing house and editor-in-chief of the *Vossische Zeitung* of Berlin, declared: “As a journalist, I cannot look back on the war years without remembering with melancholy the many grave sins committed in propaganda by the German authorities, and not only the military ones.”³⁹ Bernhard referred to the inability of the *Oberste Heeresleitung* (OHL, Supreme Army Command) to employ mass media as powerful tools to influence public opinion, at least until 1917, when a centralized system of visual propaganda, the *Bild- und Filmamt* (BUFA), was established following the Allied models. In order to cover the various theaters of war, *BUFA* organized twenty troops, each of them composed of an army official, a photographer, a cameraman, and two assistants. However, they were tremendously limited in their movements during military operations and in the type of subjects they could photograph. Thus, the German attempt to streamline the German government agencies and centralize the propaganda arrived too late and failed to convincingly influence public opinion (Weise 1997, 74).

Scholars have often highlighted that the WWI Allied propaganda, particularly the French one, was much more sophisticated than the German one in boosting the morale of soldiers and population, effectively depicting the brutality of the enemy (Eisermann 2000; U. Keller 2013). In Germany, on the contrary, press photography became a target for governmental censorship measures, which banned any reference to violence (also when perpetrated by the enemy), death, and defeat. Even the evolution of important battles and the conquer of enemy positions were reported through vague and fragmentary information. Moreover, successful military operations were often reported with a conspicuous delay since photographs, always accompanied by a description of the scene, needed first to be approved by the censorship office for journalistic images at the front and later presented in triplicate to the *Oberzensurstelle* (Chief Censorship Office) in Berlin.⁴⁰ Of three photographs, one

³⁹ My translation; original: “Man kann als Zeitungsmann nicht auf die Kriegsjahre zurückblicken, ohne mit Wehmut der vielen schweren Propagandasünden zu gedenken, die von den deutschen Behörden, und zwar nicht bloß den militärischen, begangen worden sind.” (Osborn 1927, 81)

⁴⁰ At the beginning of the war, the *Oberzensurstelle* (Chief Censorship Office) was subordinated to the *Nachrichtenstelle* (Intelligence Bureau) of the *Oberste Heeresleitung* (Supreme High Command, or OHL). From mid-1915, the Department III b (Abteilung III b) responsible for

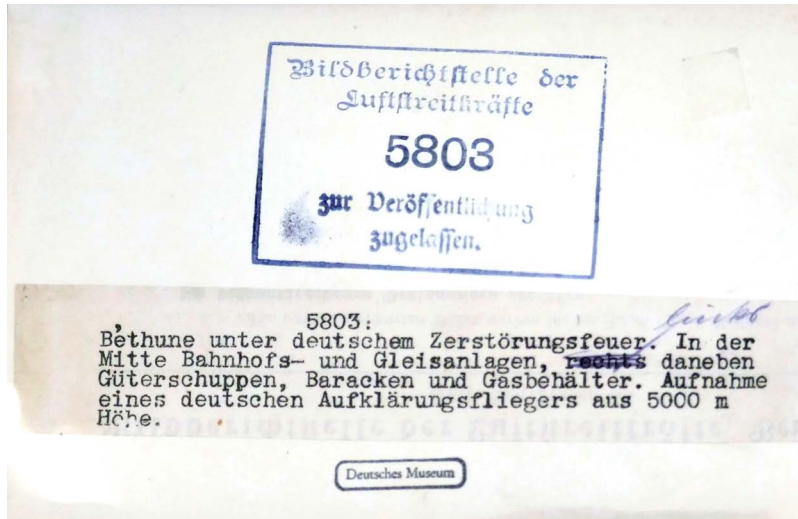


FIGURE 1.6: WWI photograph with the stamp of approval for publication.

copy was returned to the photographer with the stamp “Zur Veröffentlichung zugelassen” (approved for publication) or “Zur Veröffentlichung nicht zugelassen” (not approved for publication), and the other two copies were filed (fig. 1.6). The authorization to publish images related to the field of aviation and meteorology was given by the commanding general of the German air force (*Kommandierende General der Luftstreitkräfte*, abbreviated *Kogenluft*), while the press and propaganda office of German Imperial Admiralty Staff (*Presseabteilung des Admiralstabes*) supervised the visual material concerning the navy.

In 1917, the German War Press Office confidentially distributed the *Zensurbuch für die deutsche Presse* (censorship book for the German press) approved by the Prussian War Ministry, which contained guidelines and regulations for publishers and editors. In the name of the “patriotic interest,” the volume showed topics that had to be banned from publication or controversial themes that editors needed to address in a specific manner (*Oberzensurstelle des Kriegspresseamts* 1917, 2). The subjects were organized according to alphabetically ordered keywords. A long section discussed the regulations imposed on images and photographs. Representations of brutality on people and dead bodies were censored (except for enemy casualties and dead horses). Many restrictions concerned the representations of storages, hangars, transportation networks, and new military weapons (artillery pieces, military ships, submarines, aircraft). Censorship also banned pictures that could give information about the troops’ disposition as well as photographs of the front lines. Consequently, portraits,

military intelligence was upgraded, and a specific section for press and propaganda, the *Kriegspresseamt* (War Press Office), was created.

posed group scenes, and soldiers' lives in the rear were the photographic subjects prevailing in war illustrated magazines. The scarcity of photographic material fitting the censorship standards induced editors to publish pictures that first appeared in foreign newspapers. German publishers ended up distributing photographs produced by rival powers, which could be found in neutral countries. Thus, the strict German censorship system uniformed the publishing market: the major illustrated publications started to resemble one another from a photographic point of view.

The German population constantly encountered the same recurring visual motifs during the war, due to the limited freedom of publishers. Three major categories composed this monolithic photographic flow. Soldiers' lives and technological development constituted the first two photographic genres offered by the illustrated press. Both topics were addressed vaguely, without detailed or explanatory information that enemies could use against Germany or that the population could negatively misinterpret. The experience of soldiers at the front was shown as a legendary collective adventure, while the technological character of the conflict indicated the transformation of the way of making modern wars and symbolized the regeneration of society at large. Finally, the third central visual category depicted during the war was the landscape. Not even mentioned in the censorship book, the landscape was a genre abundantly published in the print media.⁴¹ It was generally understood to be a neutral subject and, therefore, was photographically proposed in all its facets during the conflict. On the pages of magazines and volumes, the landscape appeared indeed in many different (old and new) forms: destroyed, poisoned, picturesque, touristic, sublime, symbolic, measured, analyzed, and abstract. The land was not only traditionally photographed from the ground perspective following the idea of a scenario, but it was also recorded from the sky. Even though the book of the German censorship severely controlled the dissemination of photographs concerning aviation (e.g., representations of aircraft models and air attacks), examples of aerial military reconnaissance circulated widely in wartime, and they spread in Germany even more than in other countries.

⁴¹ The only reference to landscape in the *Zensurbuch für die deutsche Presse* can be found under the entry *Italien* (Italy): "Landscapes of military importance from the Austro-Italian war zone (land, sea fortifications, artificial roads, pass crossings, railways, bridges, reservoirs, technical systems for electrical power, radio stations) cannot be published, even if they are old representations." (Oberzensurstelle des Kriegspresseamts 1917, 38, my translation)

1.3 From *Kriegsmaler* to Artificial Eye

“Will portrayed battle scenes, perhaps in the form of episode painting, be still an issue of high art after this war?”⁴²

This open question concludes the essay *Krieg und Kunst* published by the art critic Richard Braungart in September 1914. Analyzing war as a subject of artistic representation over the centuries, Braungart foresaw a definitive transformation of military art in conjunction with the outbreak of the world conflict. The glorification of the battle through painted depictions of colorful troops arranged into the landscape, a popular subject since the Renaissance, was not plausible anymore. The nineteenth-century improvement of firearms, further enhanced in WWI, increased the battlefield’s size preventing hand-to-hand combat. Consequently, the representations of fighting as an opportunity for artists to study human bodies in peculiar dynamic positions, defining the iconography of war heroism, was abandoned in WWI.⁴³ Moreover, Braungart recognized that the total view of the armed conflict (*Totalansicht einer Schlacht*) had to be limited only to specific sections (*Ausschnitte*). Even panoramic paintings were partially unsuitable for representing the new way of making war.⁴⁴ Therefore, artists focused only on single military episodes, typifying decisive events by representing individual groups of soldiers. By the end of the war, the art historian Richard Hamann agreed with Braungart in considering the war fought by industrial technology depictable only through

⁴² My translation; original: “Wird nach diesem Krieg auch die schildernde Schlachtenmalerei, vielleicht in der Form der Episodenmalerei, wieder ein Problem der hohen Kunst sein?” (Braungart 1914, 565)

⁴³ Cf. original: “Mit der Einführung und stetig fortschreitenden Vervollkommnung der Feuerwaffen aber wurden die Distanzen immer größer und die Schauplätze einer Schlacht immer ausgedehnter. So mußte sich die Schlachtenmalerei späterer Jahrhunderte mehr und mehr auf den Ausschnitt beschränken, und in unserer Zeit vollends ist es nur noch einem Rundbild (Panorama) und auch diesem nur recht bedingt möglich, eine Totalansicht einer Schlacht, etwa in einem entscheidenden Moment, zu geben. Das Tafelbild aber muß notgedrungen wieder zur Episode, zum Ausschnitt seine Zuflucht nehmen oder versuchen, durch Typisierung oder Monumentalisierung von Einzelgruppen die Illusion einer großen Aktion zu erzeugen.” (ibid., 556)

⁴⁴ One of these military panoramas was made by Anton von Werner, who created a 115-meter painting representing the Battle of Sedan that occurred on September 2, 1870, during the Franco-Prussian War. In 1883, the panorama was inaugurated in a rotunda in Alexanderplatz (Berlin) in the presence of the Kaiser (Sternberger and Neugroschel 1977).

episodes (*Episoden*), details (*Kleinigkeiten*), and sections (*Ausschnitte*). Moreover, he remarked: “There is no doubt that a modern battle has become unrepresentable in its extent and spiritual meaning.”⁴⁵ Similarly, the artist Guido Joseph Kern described the crisis of traditional military representation through the expression “modern war has made the battle invisible.”⁴⁶

After reaching its golden period with the Franco-Prussian war, official military painting declined during WWI to be gradually replaced by graphic art and photography (Mai 1994; Noll 1994; Paul 2004, 105; M. Köppen 2005, 143–57). Printing and photographic techniques seemed to better suit the technological evolution of warfare, reconstructing the previously described total view of the military events (*Gesamtansicht*) through a series of recorded sections. Even though photography in WWI became an innovative medium for narrating, symbolizing, propagandizing, and even making war, the transition from the work of the *Kriegsmaler* (war artist) to the popularization of the “artificial eye” was gradual and not totalizing. Official painting, graphic illustrations, and photography coexisted during the war, despite a general fascination for the possibilities offered by the most modern photographic medium. Dedicated magazine articles clarified the roles of art and photography, as well as their advantages and limits, to the German public. Rather than focusing on specific art pieces, this introductory section aims at showing how the specific features of painting and photography in WWI were presented to the general audience. Analyzing the WWI discourse about these media may also explain the secondary presence of official military painting in all the other conflicts of the twentieth century.

Most of the countries involved in WWI recruited war artists who were named *Kriegsmaler* in the German and Austro-Hungarian Empires.⁴⁷ The

⁴⁵ My translation; original: “Das ist ohne Frage, daß eine moderne Schlacht in ihrer Ausdehnung und geistigen Bedeutung undarstellbar geworden ist. Jede Darstellung, die uns Soldaten, Stürme, Bewegungen, Geschütze, Schüsse, heroische Akte, Sieger und Besiegte zeigt, muß notwendig Episoden geben, die, mögen sie noch so menschlich erhebend oder erschütternd sein, doch nur winzige Kleinigkeiten, Ausschnitte des ungeheuren Geschehens darstellen, das die moderne Schlacht bedeutet, und um so kleinlicher, je naturgetreuer es ist.” (Mai 1994, 252)

⁴⁶ My translation; original: “Selbst wenn das erzählende Moment noch Bedeutung im künstlerischen Schaffen besäße, würde eine realistische Darstellung größerer Ereignisse im Einzelbilde nicht mehr möglich sein, denn der moderne Krieg hat die Schlacht unsichtbar gemacht. Kein Pinsel vermag überhaupt mehr die ungeheueren Abmessungen des modernen Schlachtfeldes, die in der Erde wühlenden Massen, den Kampf der Maschinen auf Entfernungen, die jeder Vorstellungspotten, zu bannen.” (Kern 1915, 288)

⁴⁷ The Austrian *Kriegsmaler* and the English *Artists Rifles* were particularly well-organized units, which operated under the war press quarters. Among the famous official war artists who took service in these units there was Paul Nash and Oskar Kokoschka.



FIGURE 1.7: 1917 image propaganda for the war bonds designed by Fritz Erler and printed on posters (a) and in illustrated magazines (b, *Berliner Illustrierte Zeitung* 1917a, 216).

Berlin General Staff was responsible for enlisting German artists who could be recruited as official war correspondents on behalf of the army, freelance artists, or painting and drawing soldiers (Mai 1994, 253). After being subject to censorship,⁴⁸ their work was shown in exhibitions, volumes, postcards, and magazines.⁴⁹ Artworks integrated the texts of volumes like *Kriegsfahrten deutscher Maler: Selbsterlebtes im Weltkrieg 1914-1915*, as well as the pages of many illustrated magazines (Rocholl 1916). Even though most magazines gradually substituted pictorial depictions with photographs,⁵⁰ graphic art was largely employed to transmit propagandistic slogans. The motto “Helft uns siegen! zeichnet die Kriegsanleihe” (Help us triumph! Subscribe to the war bond) accompanied the famous 1917 image propaganda for the war bonds made by the *Kriegsmaler* Fritz Erler (Zeller 1988, 214, fig. 1.7). The picture

⁴⁸ In 1914, Max Slevogt was sent to the Western Front as an official *Kriegsmaler*. From his permanency in the combat zone, he made twenty-one lithographs known as portfolio “Gesichte” that were immediately confiscated by the German authorities after being published (Cork 1994, 354).

⁴⁹ For the relation between the publishing company Ullstein and war artists, see Osborn (1927, 92).

⁵⁰ Unlike most of the illustrated magazines, the *Leipziger Illustrierte Zeitung* primarily relied on drawn or painted descriptions of the events of the time (Noll 1994, 265). For an analysis of drawing and painting in the German print media, see the chapter *Pathos und Humor: Druckgrafiken vom Krieg* in Brocks (2008, 149–236).



FIGURE 1.8: Cover and a page of Hans Rudolf Schulze's portfolio "Unsere Luftflotte im Weltkrieg 1914/1915" sold by the Deutscher Luftflotten-Verein in 1915.

shows a German soldier with a steel helmet, who, equipped with a gas mask and hand grenades, has just cut through a barbed wire fence and is now looking to the next target. Officially issued by the German Reich after a poster competition, the lithography (based on Erler's painting) circulated widely in the press, on posters and postcards, becoming a real icon during and after the war (Reckendorf 1917).

Drawing and painting replaced photography when the camera could not record specific scenes or reproduce realistic effects. Since early color photography was laborious to produce and replicate on a large scale, state and private associations usually sold color art reproductions of established artists to make a profit. In 1915, for instance, the Deutscher Luftflotten-Verein (German Airfleet Association) sold a portfolio of six color reproductions of Hans Rudolf Schulze's paintings for ten German marks (fig. 1.8). Earnings from the sale of these WWI aviation motifs supported the war effort while promoting the activities of the German Airfleet Association and increasing its membership network (Schulze 1915). Moreover, the chaotic environment of WWI fighting represented a practical obstacle for photography. Recording dynamic actions during battles constituted an arduous activity not only due to the type of photo-optical technology available at that time but also because of restrictions and censorship imposed on photographers (see section 2.1). Limitations in portraying the fight concerned ground, aerial, and naval warfare. Dogfighting (aerial battles between fighter aircraft) and the bombing of cities were mainly portrayed by artists, rather than photographers, and spread among the German population through postcards. The artist Michael Zeno Diemer specialized in these scenes



FIGURE 1.9: WWI postcard with a Michael Zeno Diemer's drawing of the aerial warfare.

(fig. 1.9). Interestingly, Diemer's work that in prewar time had been appreciated for its monumental size (e.g., the panoramic paintings Battles of Bergisel and Battle of Bazeilles) was miniaturized and reproduced on postcards and newspapers during the war (Werner and Baumgärtner 2014). Even though photography amply recorded naval technology (particularly submarines), military operations conducted over and under the sea still constituted a motif for marine painters. After joining the crew of a flagship and a submarine, Claus Bergen, the official marine painter of the war, certainly produced the most popular depiction of naval military actions in WWI (Hormann 2014).⁵¹

The previous examples showed that part of the military art was employed as a visual report reproduced through many different media. Abandoning the idealized, victorious, and celebratory character of the past history painting, WWI art focused on either technologies or individual experiences of soldiers. Artists also reduced the sizes of their artworks, which, even when initially created in a big format, reached the public through mass media. If shown in dedicated exhibitions, WWI art aimed at representing a softened version of the intimate and private experience (*seelisches Erlebnis*) of the "modern" war. The article "Der Einfluß des Krieges auf die Maler" (The influence of the war on painters) also

⁵¹ The official war painters Claus Bergman and Ludwig Dettmann (who will be addressed later on in this section) subsequently joined the Nazi Party in which their WWI art was largely appreciated. In 1944, their names appeared on the Nazis' "God-gifted list" (*Gottbegnadeten-Liste*), which exempted them from military mobilization during the final stage of WWII.



FIGURE 1.10: BIZ article “Der Einfluß des Krieges auf die Maler” with reproduction of military paintings of the German Secessions (Brieger 1918).

highlighted how the traumatic exposure to war (*Wesensgehalt des erschütternden Krieges*) determined an emotional and mental transformation of people’s existence that is also traceable in art (fig. 1.10). A nearly religious trait characterized WWI artworks, which indicated a spiritual interiorization (*inneres Erlebnis*) of the war experience.⁵²

Among the war art exhibitions organized during the four years of war,⁵³ the *Ausstellung deutscher, österreich-ungarischer und bulgarischer Kriegsbilder* (Exhibition of German, Austro-Hungarian and Bulgarian war images, 1917) at the Royal Academy of the Arts of Berlin was amply covered in the German press.

⁵² “In dieser im höchsten Sinne visionären Richtung scheint die seelische Gewalt des Kriegserlebnisses unsere Kunst schnell zu entwickeln, und eigentümlich ist ihr der im Gegensatz zur vorhergehenden Generation außerordentlich religiöse Zug, der sich in einigen Arbeiten bis zur Ekstase steigert. So scheint die Behauptung nicht zu gewagt, daß dieser Krieg für unsere Kunst eine Verinnerlichung bedeutet und immer stärker bedeuten wird.” (Brieger 1918)

⁵³ Even the annual *Große Berliner Kunstausstellung*, which existed since 1893, was entirely dedicated to the subject of war in 1916.

The *Berliner Illustrirte Zeitung* (1917) dedicated to this exhibition the long article “Die Maler und der Krieg” written by the art historian Lothar Brieger. The artworks exhibited in Berlin intended to summarize the main artistic tendencies in portraying war developed by three of the Central Powers involved on the same side of the conflict. Despite the shared war experience, Brieger shows how these works diversified in terms of national style. Bulgaria, the youngest state among the three, produced a passionate and direct depiction of the brave physical experience of war. Austria-Hungary, an Empire that had earlier absorbed the art of war, represented the military experience in a less immediate and pure way, trying to classify the military intervention with various techniques. Along this line, German art had the chance to represent war through disparate techniques and styles since it owned the most developed art tradition (Brieger implicitly suggested this last statement). The art critic mentions the monumental and impersonal heroism proposed in Fritz Erler’s portraits, and he also highlights Hugo Vogel’s depictions of Hindenburg and the military leaders in the decision-making phase on the front. In fact, group portraits of anonymous soldiers on the battlefield and individual portraits of German leaders constituted most of the war art, followed by the landscape genre. Finally, Brieger celebrated Ludwig Dettmann as the “strongest” German painter of the World War, to whom the 1917 exhibition reserved an entire room. According to Brieger, his paintings were able to summarize the powerful experience of the individual in the war.

Reproductions of some art pieces shown in the exhibition integrated the text. However, at the end of the *BIZ* article, a photograph of the famous artist Ludwig Dettmann and his son appeared with the caption: “The painter Prof. Ludwig Dettmann, whose images of war made such a big impression, with his son, the *Oberleutnant zur See* Hans Dettmann, at a combat squadron in the West.”⁵⁴ Taken by the Berlin Photographische Gesellschaft, the photograph served to attest to the painter’s direct involvement in the war. Moreover, photographing Dettmann together with his son, who had a successful military career as a naval officer and then a sea pilot, gave even greater credibility to his art. The photo certified that the artist was actively taking part in the conflict on the Western Front before making his paintings, or he was at least an eye-witness of military events.

⁵⁴ My translation; original: “Der Maler Prof. Ludwig Dettmann, dessen Kriegsbilder so großen Eindruck gemacht haben, mit seinem Sohne, dem Oberlt. z. S. Hans Dettmann, bei einer Kampfstaffel im Westen” (Brieger 1917, 323). *Oberleutnant zur See* stood for naval senior lieutenant.

The illustrated press amply highlighted the objectivity of photography in contrast to the subjectivity of painting during the four years of war.

Whereas in the past the depiction of war depended on the subsequent reproduction by history and war painters, this time the photographer is expected to record the events in the field on the plate in order to later offer historiography *authentic* visual material that is *not distorted by any personal feelings*.⁵⁵

Whereas in the past the depiction of war depended on the subsequent reproduction by history and war painters, this time the photographer is expected to record the events in the field on the plate in order to later offer historiography *authentic* visual material that is *not distorted by any personal feelings*.⁵⁶ Instead of showing the individual's inner experiences (*inneres Erlebnis*), photographs objectively recorded the external appearance of war events (*äußeres Erlebnis*). This supposed objectivity, together with the acceleration in the process of taking pictures, made photography a "truthful" tool for visually documenting the conflicts of the twentieth century. The photographic medium embodied a documentary status, even though the use of images as propaganda (omitting, retouching, mounting only parts of facts) became evident in conjunction with WWI (Dewitz 1992). This supposed scientific objectivity was supported by the WWI use of the camera as an essential military instrument. Since 1914, newspapers, magazines, and technical manuals advertised the advantages of employing photography in military science. In the article "Photographie im Kriege," which appeared in the *Frankfurter Zeitung*, Max Frank presented an overview of the principal uses of photography for military tasks: photogrammetry, aerial photo-reconnaissance, mapping, and ballistics (Frank 1914). This last field consisted in the photographic examination of projectiles' trajectory and consequences of the shooting (recordings during naval firing exercises and determining targets hit in dogfights). Photography and cinematography were described as essential instruments of scientific analysis,

⁵⁵ Italics added; my translation; original: "Während früher die Kriegsdarstellung auf die nachträgliche Wiedergabe durch Historien- und Kriegsbildermaler angewiesen war, soll diesmal der Photograph die Vorgänge im Felde auf der Platten festhalten, um so später der Geschichtsschreibung ein echtes und durch keinerlei persönliche Empfindungen verzerrtes Bildmaterial zu bieten." (*Berliner Illustrirte Zeitung* 1915e, 409)

⁵⁶ Italics added; my translation; original: "Während früher die Kriegsdarstellung auf die nachträgliche Wiedergabe durch Historien- und Kriegsbildermaler angewiesen war, soll diesmal der Photograph die Vorgänge im Felde auf der Platten festhalten, um so später der Geschichtsschreibung ein echtes und durch keinerlei persönliche Empfindungen verzerrtes Bildmaterial zu bieten." (*ibid.*, 409)

supporting human organs of perception to reveal the dynamics of specific phenomena.

The physicist Ernst Mach had studied ballistic shock-waves through schlieren photography since 1887, laying the foundation of ballistics photography used in the military context (Mach 1906, 151–52). Pistol- and rifle-cameras were invented in the same years. Some early examples were the Theophile-Ernest Enjalbert's "photo-revolver" and Etienne Jules Marey's "chronophotographic gun," both invented in 1882 (Koenig 1992, 40).⁵⁷ These nineteenth-century studies on body movements and projectile trajectories became the inspiration for a new military method of making war fully realized only in WWI.⁵⁸ In this context, the camera became the detached, invulnerable, and artificial eye ("künstliche Auge") that Ernst Jünger first theorized in the thirties basing his analysis on WWI photography. According to Jünger, on the one hand photo-optical technology recorded spaces inaccessible to the human eye, on the other hand photography expressed an insensitive and cruel mode of vision that "records the bullet in mid-flight just as easily as it captures a man at the moment an explosion tears him apart" (Jünger 1934a, 39).⁵⁹ In other words, mechanical recording as used in WWI reconnaissance allowed the observer to adopt a cold and detached attitude, which influenced the capacity of people to perceive cruelty.

Following Jünger's pioneering way of thinking, other intellectuals like Paul Virilio, Friedrich Kittler, and Susan Sontag described the identification of camera and gun. Sontag used the expression "War-making and picture-taking are congruent activities" (Sontag 2003, 53), and Paul Virilio, linking war and cinema, affirmed that the "watching machine," namely the military supply of images, became essential for the "war machine." In this context, "the eye's function [with its optical prosthesis] being the function of a weapon" (Virilio 1989, 19; 1994). Finally, Kittler explicitly stated that "The history of the movie

⁵⁷ Eadweard Muybridge (1877-1878) and Ottomar Anschütz (1885) also captured locomotion through stop-motion photographs, but using multiple cameras.

⁵⁸ For a historical excursus on the use of martial terminology in the photographic process, see Koenig (1992).

⁵⁹ Cf.: "Die Aufnahme steht außerhalb der Zone der Empfindsamkeit. Es haftet ihr ein teleskopischer Charakter an; man merkt sehr deutlich, daß der Vorgang von einem unempfindlichen und unverletzlichen Auge gesehen ist. Sie hält ebensowohl die Kugel im Fluge fest wie den Menschen im Augenblicke, in dem er von einer Explosion zerrissen wird. Dies aber ist die uns eigentümliche Weise zu sehen; und die Photographie ist nichts anderes als ein Werkzeug dieser, unserer Eigenschaft." (Jünger 1934b, 201)

camera thus coincides with the history of automatic weapons. [...] In the principle of cinema resides mechanized death [...]” (Kittler 1986, 124). As the following chapters will show, these conceptualizations of photography were first propagandized on a large scale in WWI, influencing the way an entire nation interpreted the photographic act.

Chapter 2

Ground Warfare (Landkrieg) - The View from Below

Empathy

2.1 The Soldier's Camera

Among the definitions given to the First World War, there is the tendency to describe the 1914-1918 conflict as a “war of lenses and images” and a “war of the media and the press.”¹ Historians and media theorists have debated whether WWI should be considered the first photographic war due to the quantity, quality, and variety of photos that circulated or, instead, it must be read only as an evolution of photographic experimentations that already occurred in previous conflicts: starting from the Mexican–American War (1846-1848), and continuing with the Crimean War (1853-1856), the American Civil War (1861-1865), the Franco-Prussian War (1870-1871), etc. Certainly, as soon as photography was invented in 1839, it also attracted the interest of the military (as well as science and other fields).

Avoid giving a general overview of WWI photography in comparison with other conflicts, this section explores how photographic technology was perceived and propagandized in WWI media. Analyzing primary sources with an approach that may be defined “from the inside,” this part of the dissertation emphasizes the active role of WWI producers and consumers of photographs by investigating texts, images, and objects.² This preliminary section clarifies the position of amateurs and professional photographers in WWI, commenting on the functions of photography predisposed by German propaganda. Analyzing how photography was generally interpreted in WWI helps contextualize the attitudes of soldiers-photographers³ in taking pictures of natural and urban landscapes, clarifying the criteria for a wide circulation of these subjects.

The importance of photography as an instrument for interpreting the collective experience of war is well expressed in a picture published several times in 1915 (fig. 2.1). The photograph can be found in the collection of WWI images *Kriegsbilder 1914-15* published by the Kriegs- Invaliden-Hilfe⁴ and it

¹ For German literature discussing WWI in terms of *Presse- und Medienkrieg*, *Fotokrieg*, *Krieg der Linsen*, and *Krieg der Bilder*, also in comparison with previous conflicts, see Rother (1994), Holzer (2003), Paul (2004), Glasenapp (2007), U. Keller (2013), and Doll (2014).

² For introductory articles that describe the role of WWI German photography focusing on the ground warfare of the Western Front, see Riha (1980), Hüppauf (1998), and Glasenapp (2007).

³ In this section, the use of the term “soldier-photographer” highlights that the specialized figures of the photojournalist and the war photographer were not yet defined in WWI.

⁴ The collection of WWI images *Kriegsbilder 1914-15* published by the Kriegs- Invaliden-Hilfe supported disabled veterans by selling reproductions of artworks and photographs made with relief-etched copper printing and gravure printing. During WWI, this series of pictures appeared in 100 deliveries with 2 sheets each. Every picture was mounted on an



FIGURE 2.1: WWI German soldier-photographer with a folding camera.

also appeared in the *Berliner Illustrierte Zeitung* (BIZ) accompanying the article “With the camera at the front” (Mit der Kamera an der Front) (*Berliner Illustrierte Zeitung* 1915e, 409–11). Portraying what today would be called a photojournalist, the picture shows a German soldier lifting a folding camera (*Klappkamera*) over the edge of a front-line trench. The face of the soldier-photographer is covered by his hand, while, in the background, another comrade pointing a rifle through the parapet of the trench helps to contextualize the scene in the actual warfare. Since the main subject of the picture is the act of photographing, this photo attested to the role of the soldier’s camera as an innovative recording device widely used in the “modern” military context.⁵ In the collection *Kriegsbilder 1914-15*, published by the Kriegs-Invaliden-Hilfe, this photo appeared in the section “Das moderne Schlachtfeld” portraying the modern battlefield, with the caption: “A dangerous photo under enemy infantry fire” (Eine gefährliche Aufnahme unter feindlichem Infanteriefuer)

elegant cardboard that reported a short caption. A single delivery cost 50 Pfg or 25 Pfg for subscribers. Portfolios composed of 16 images for the price of 3 Mark were also sold (*Kriegsbilder 1914 - 15* 1915).

⁵ The use of the term “modern” applied to the WWI military context recurs in primary sources. Some examples are: “das moderne Schlachtfeld,” “im modernen Kampf,” “Bilder dieses ersten modernen Krieges.”

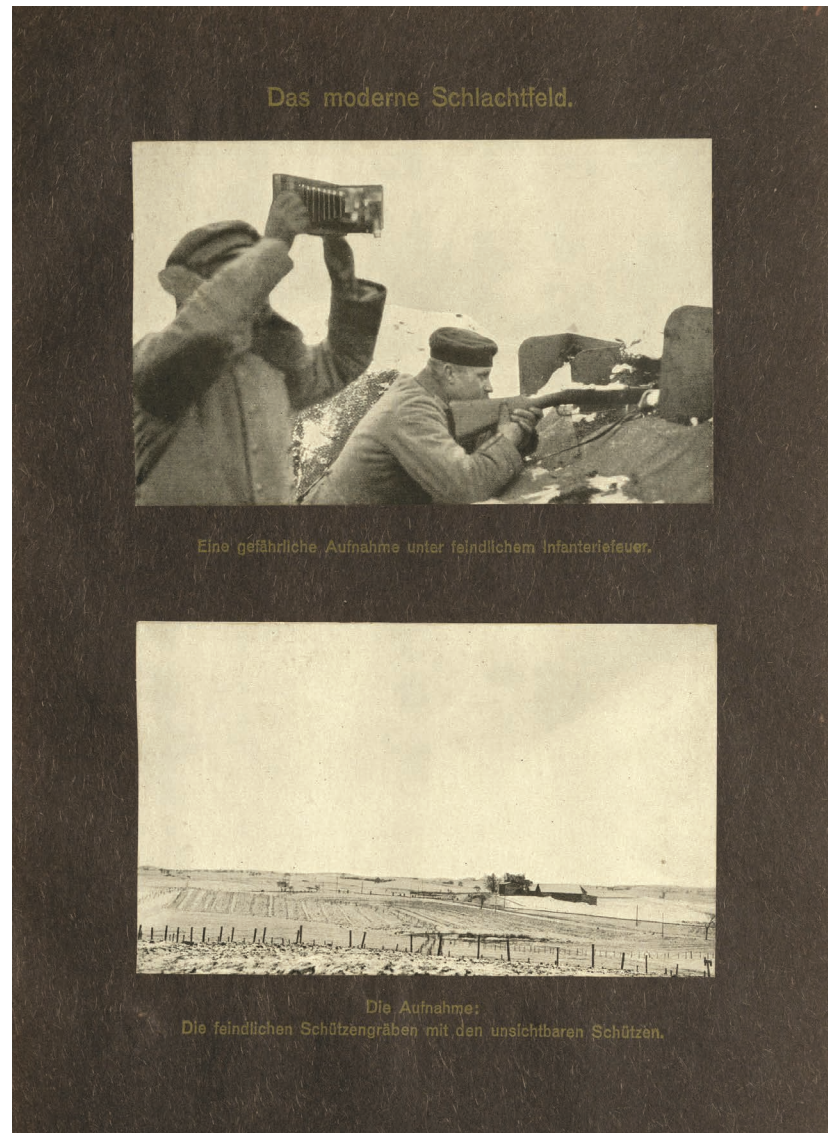


FIGURE 2.2:
One sheet of the
portfolio *Kriegs-
bilder 1914 - 15*
(Mappe A) titled
“Das moderne
Schlachtfeld.”

(*Kriegsbilder 1914 - 15* 1915, fig. 2.2). The image of the soldier-photographer was combined with another photograph representing a snow-covered section of a landscape described as teeming with invisible riflemen hidden in trenches. The visual association of the two photographs makes the reader think that the landscape-battlefield is the exact recording taken by the soldier-photographer of the first picture (Dewitz 1989, 207–8; Encke 2006, 33–34). Both the act of photographing war (top picture) and the landscape-battlefield itself (bottom picture) were symptoms of a new way of making war.

The *BIZ* magazine, which published the picture of the soldier-photographer in July 1915, also did not cite the geographical location where the photo had been taken. The caption only described the portrayed event in these terms: “With the camera at the front: A picture taken from the foremost trench” (“Mit der Kamera an der Front: Eine Aufnahme vom vordersten Schützengraben aus”



FIGURE 2.3: A portion of the BIZ page where appears the photo of the soldier-photographer (*Berliner Illustrirte Zeitung* 1915e, 409).

(*Berliner Illustrirte Zeitung* 1915e, 409, fig. 2.3). As many scholars outlined, one could assume that the picture was taken on the Western Front, citing Bodo von Dewitz, who was the first to analyze the *Kriegs-Invaliden-Hilfe* publication.⁶ Nevertheless, the readers of the *BIZ* did not acquire any precise information about where and who took this picture. Far from being considered a reliable document, WWI photography served instead to symbolize, idealize, and typify the war experience, which was dominated by incredible technological innovations. Thus, even the picture of the soldier-photographer soon became iconic, embodying a peculiar aspect of the conflict. This representation started to signify the relationship between warfare and photographic technology, being the scene disconnected from a specific day and location but only placed in an imprecise position on the front over a broad time frame (1914-1918).

Perusing the *Pressefotos* collection of the Bayerische Kriegsarchiv, an original photographic print representing the same scene shows the note “Polen” (Poland) and the stamp “R. Sennecke N. 498” on the reverse of the photo (fig. 2.4). Therefore, the picture of the soldier-photographer, which has been for a long time regarded as a scene taken on the Western Front and partially proposed in these terms also to the WWI audience, may actually have been taken on the Eastern Front by the war correspondent Robert Sennecke. A

⁶ Bodo von Dewitz has been one of the first scholars to analyze this picture, incorporating the photo in various publications (Dewitz 1989, 207–8; 1994, 163). Citing as his primary source the *Kriegs-Invaliden-Hilfe* 1915, he captioned this photo: “Fotografierender Soldat; unbek. Fotograf, Westfront 1914/15” (Dewitz 1989, 16 Abbildungen). Bodo von Dewitz’s caption has been repeatedly cited by other German scholars (Spilker et al. 1998, 108; Encke 2006, 33–34; Glasenapp 2007, 164). However, the fact that this picture has been taken on the Western Front is dubious, according to primary sources I consulted.

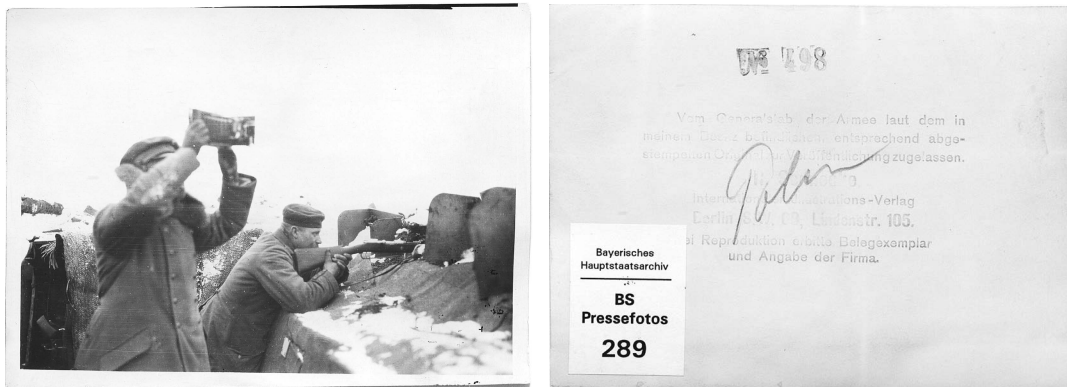


FIGURE 2.4: Original photographic print (front and back) housed at the Bayerische Kriegsarchiv in Munich.

member of the Association of German Illustration Photographers (*Verbandes Deutscher Illustrations-Photographen*) and founder of the photo agency *Internationaler Illustrations-Verlag*, Sennecke operated in France, Poland, and in the Ottoman Empire during WWI. He was one of the German certified photographers (authorized by the *Chef des Generalstabes des Feldheeres*) who worked for the commercial press.⁷

The place where the picture was taken should be considered at least uncertain; however, this aspect was irrelevant in the WWI communicative scheme. Losing the contextual relationship with a well-defined author and event, this snapshot implicitly lent the soldier's camera the status of a new technological method of creating memories of war. According to Helmuth Theodor Bossert, this device provided insights into the spiritual experience of the war (Bossert 1930). Consequently, the manipulation of pictures was tolerated in the WWI press, even though public opinion still believed in the objectivity of photography and discovered the misleading potential of political propaganda only in the course of the conflict (Doll 2014, 10). Just comparing the photo published in the series *Kriegsbilder 1914-15* with the one appearing on the *BIZ*, it is evident that the picture has been cropped in different aspect ratios and single elements have been retouched: white spots, which seem snow in the original,

⁷ The application for becoming a war photographer had to be sent to the General Staff (Generalstab), possibly with references from a magazine editor. In 1914, thirty-nine photographers were admitted to the theaters of war: ten in the West and twenty-nine in the East. Among the WWI press photographers, there were the most famous names of the time who mainly came from Berlin. An initial list can be founded in Weise (1997, 73), who mentioned: (in the east) Alfred and Karl Groß, Erich Benninghoven, Berliner Illustrations-Gesellschaft, Ludwig Boedecker, F. Gerlach, the brother Haeckel, Hohlwein & Gircke, Konrad Hünich, International Illustrations Co. Sanden, Franz Kühn, Photo Union Paul Lamm, Eduard Frankl, Alfred Kühlewindt, Kester & Co. Munich, L & A Schaul Hamburg; (in the west) Richard Guschmann, A. Menzendorf, Wilhelm Braemer, Robert Sennecke, Walter Gircke, Eugen Jacobi, Metz and Max Löhrich, and Paul und Hans Tellgmann.

disappeared in the *BIZ*'s photo that looks polished. Moreover, the backgrounds of both pictures have been altered. Even though in some cases retouches were visible by the naked eye, the veracity and reliability of photography were generally perceived as embedded qualities especially compared to drawings. When lithographs appeared in magazines were often accompanied by the remark that they were based on photographs (Spilker et al. 1998, 111). Thus, the factual credibility of photography started to be used by national propaganda to create an idealized reality of war.

The repetition of the same theme devoided of context proves evidence that the symbolic value of a picture prevailed over its documentary authenticity during the war. WWI publications showed many variations of the soldier-photographer motif. The subject was usually photographed in profile, standing in a front-line trench while recording the enemy territory. The battlefield, however, never appeared in the frame since the scene was often staged and the soldier was asked to pose in a fake trench. Despite the questionable authenticity of the scene, the soldier-photographer became a well-defined WWI iconographic subject. After the first photographs were published in *Kriegsbilder 1914-15* and in the *BIZ* in 1915, other similar snapshots circulated in the following years presenting only slight variations of the established motif: a full-length portrait instead of a waist shot (1917/18, fig. 2.5) or a gas mask to make the soldier-photographer an even more appealing subject (1916, fig. 2.6). These recurring photographs were either published as independent images or complemented articles discussing the role of the war photographer at the front.

The fact that this topic appeared in the most disparate magazines—not only in publications for photo amateurs but also in journals devoted to science and technology, military innovation, and in mass-market illustrated magazines dedicated to entertainment and popular culture—testifies a general public interest in the role, uses, and techniques of photography in warfare. Depending on the magazines' readerships, these articles could generally address the work of official war photographers (*Kriegsphotographen*), or they could focus on the technical peculiarities of photographic devices used by the army (multi-shooting methods and aerial photography). Finally, many articles gave amateur photographers tips on how to pursue their hobby at the front. Indeed, historians have documented at least three groups of people who took photos in WWI: official military photographers, commercial photographers, and amateurs.⁸ The

⁸ Historians debate the number of official military photographers in WWI Germany: at the beginning of the war, the Chef des Generalstabes des Feldheeres admitted thirty-nine photographers to operate in the theaters of war, while in 1917, when the Oberste Heeresleitung



FIGURE 2.5: War photographer at the front, published in the *Illustriertes Jahrbuch. Kalender für das Jahr 1918* (Lindeboom 1918, 72).



FIGURE 2.6: Photo reporter with a gas mask in the trenches next to a machine gun, 1916 (Expertus 1919, 63).

sphere of action and scope of these three categories were often blurred: the high demand for photographic materials, for instance, forced the German editors to buy images also from amateurs (Spilker et al. 1998, 112; Ratzeburg 2014, 40–41).⁹

The early evolution of Imperial Germany's policies regarding the use of cameras at the front can be traced by analyzing the 1914 *Photographische Rundschau und Mitteilungen. Zeitschrift für Freunde der Photographie* (Magazine for Friends of Photography), the earliest and one of the most popular amateur photographic periodicals in the German language. From the outbreak of the war until the end of 1914, at least eight titles appeared in the magazine concerning the potential and prohibitions of using photography in warfare. In August 1914, the first article entitled *Der Krieg und der Amateurphotograph* (The War and the Amateur Photographer) started with a clear admonition: “no military events whatsoever can be photographed.”¹⁰ Since crucial images could easily fall into enemy hands, amateurs, if not yet conscripted, were asked to drastically reduce their activity and eventually offer their photographic skills to authorities, police, and rural gendarmerie or help the small photographic ateliers fallen into difficulties because of the war. In October 1914, a second article, *Schäden der photographischen Industrie durch den Krieg* (Damage to the photographic industry due to the war), reported the detriment to the photographic industry caused by the ban on the exportation of German photo-optical products toward both the belligerent countries fighting against Germany and to neutral powers. This latter prohibition was revoked when the association for the fabrication of photographic devices (*Verein der Fabrikanten photographischer Artikel*) publicly complained through a letter to the Chancellor's Office (Hanneke et al. 1914, 281). Recalling the prolific international exchange of photographic knowledge and products that occurred before the war, but not admirable and feasible anymore, the article aimed at boosting the domestic market suggesting the amateur to buy only German devices as a responsible act of patriotism.

(OHL, Supreme Army Command) established the Bild- und Filmamt (BUFA), the official photographers were reduced to nineteen (Dewitz 1989, 52; Weise 1997, 73; Paul 2004, 113; Doll 2014, 11).

⁹ Together with the three male categories of WWI photographers typically described by media scholars, a fourth, often neglected, group is represented by women's war photography. In Germany, during the war, these pictures have rarely been distributed by the press, but they formed private albums. See Ebner (2012), Oldfield (2018), and Shaul et al. (2018).

¹⁰ My translation; original: “[...] es darf keinerlei militärisches Geschehen photographiert werden.” (Hanneke et al. 1914, 241)

As a matter of fact, captivating advertisements of the American company Kodak had dominated German illustrated magazines until the beginning of August 1914. Illustrations of middle-class women recording outdoor recreational activities were combined with slogans: “Kodak photography creates lasting memories. Just pleasure. No bother. No darkroom,” “Do not be backward. Take a Kodak with you!” “A vacation without a Kodak is a vacation wasted” (fig. 2.7). More descriptive advertinments declared: “Nowadays - in the twentieth century - you buy a Kodak and use it to create pictures of everything you see, experience, love, and admire. In these Kodak pictures you have a diary of all the happy and memorable hours of your life. Make the Kodak your constant companion on walks, excursions and trips.”¹¹ During the war, however, these popular Kodak advertisements, with illustrations of “the Kodak girl,” were replaced with figures of soldiers with folding cameras produced by German brands. Among others, the *Ernemann* field cameras assured “the best successes on all war scenes” (fig. 2.8), while the film supplier *Agfa* advertised its material as efficient, reliable, durable and therefore perfect for interesting images of war.¹² The circulation of advertisements of soldier’s cameras (besides the *Ernemann*, other noteworthy models were the *Ica Icarette* and the *Goerz Ango Anschutz*) show that, after the initial prohibition of photographing military events, the public interest in visual reports, and the increasing pressure of newspapers editors, forced the Supreme Army Command to accept a more comprehensive production and distribution of war images (fig. 2.9). These photographs, which served to boost German morale, required the creation of an official censorship system.

In October 1914, the *Photographische Rundschau und Mitteilungen* published *Das Photographieren auf dem Kriegsschauplatz* (Photographing in the theater of war) with instructions for photographing the battlefield and the areas occupied by German troops. War photographers needed a permit from the Chief of the General Staff of the Field Army to operate on the front, and pictures could be distributed only after being approved by military censors (ibid.,

¹¹ My translation; original: “Seien Sie nicht rückständig! Nehmen sie eine Kodak mit! [...] Heutzutage — im zwanzigsten Jahrhundert — kauft man sich einen Kodak und schafft sich damit Bilder von allem, was man sieht, erlebt, liebt und bewundert. In diesen Kodak-Bildern hat man dann ein Tagebuch aller frohen und erinnerungswerten Stunden seines Lebens. Man mache den Kodak zu seinem ständigen Begleiter auf Spaziergängen, Ausflügen und Reisen [...]” (*Berliner Illustrierte Zeitung* 1914d, 565)

¹² The slogan of the *Ernemann* company reported: “Mit *Ernemann* Feld-Kameras die besten Erfolge auf allen Kriegsschauplätzen” (*Die Woche* 1917a, May 12), while the *Agfa* used: “Von interessante Kriegsaufnahmen auf ‘Agfa’ – Negativmaterial / Für die Photographie im Feld das Best ‘Agfa’ - Photoartikel: Leistungsfähig, zuverlässig, haltbar” (*Berliner Illustrierte Zeitung* 1914a, 684). Cf. also Dewitz (1992, 51) and Encke (2006, 18–19).

Seien Sie nicht rückständig!
Nehmen Sie einen
Kodak mit!

In ältester Zeit — als die Menschen noch in Höhlen lebten — schufen sie sich Andenken an ihnen teure Erlebnisse durch primitive Darstellungen, welche sie in Stein ritzen.

Durch diese Bilder ist ihr Andenken bis auf uns gekommen. Hätten unsere Voreltern der Steinzeit es unterlassen, solche Bilder zu schaffen, so wüßte man heute nichts von ihnen, — ihr Leben wäre mit ihnen in die Nacht der Vergessenheit zurück gesunken.

Heutzutage — im zwanzigsten Jahrhundert — kauft man sich einen Kodak und schafft sich damit Bilder von allem, was man sieht, erlebt, liebt und bewundert.

In diesen Kodak-Bildern hat man dann ein Tagebuch aller frohen und erinnerungswerten Stunden seines Lebens.

Man mache den Kodak zu seinem ständigen Begleiter auf Spaziergängen, Ausflügen und Reisen.

Die Handhabung eines Kodaks meinet man in einer halben Stunde und erzielt sofort vorzügliche Bilder.

716 Kodaks von M. 35 — an. Brownies von M. 5.50 an bei jedem photographischen Händler erhältlich. Man achte auf die Marke "Kodak". Kodak-Katalog No. 134 auf Verlangen gratis und franko.

KODAK Ges. m. BERLIN,
Markgrafstrasse 76.
Kodak GmbH, H. Wren, Kienmeier, 16, Kodak, Ltd., St. Jagobergrube, Reichsanstaltstrasse 11, für Holland: Kodak, Ltd., Hask, Lange Pooten 37.

605

Gehen Sie nicht ohne Kodak auf die Reise.



BULGARA

mit
ERNEMANN
FELD-KAMERAS

DIE BESTEN ERFOLGE AUF ALLEN KRIEGS
SCHAUPLATZEN. BEZUG DURCH ALLE PHOTO
HANDLUNGEN. PREISLISTE KOSTENFREI.

HEINR. ERNEMANN A.G. DRESDEN 150
PHOTO-KINO-WERKE. OPTISCHE ANSTALT.



FIGURE 2.8: Ernemann field cameras (*Die Woche* 1917a, May 12).

FIGURE 2.7: "The Kodak girl" (*Berliner Illustrierte Zeitung* 1914d, 565).



FIGURE 2.9: *Westentaschen-Tenax* (vest pocket Tenax) produced by Goerz AG (Berlin) since 1908 and popular among WWI soldiers.

302). Moreover, from the beginning of November 1914, photo reporters were expected to follow the “Instructions for War Photographers and Cinematographers” (*Anweisungen für Kriegs-Photographen und Kinematographen*), conveying patriotic and positive representations of war.¹³ A month later, however, the *Photographische Rundschau* made public the letter “Aufnahmen aus dem Kriege” (Photographs from the war) sent from the Deputy General Staff of the Army (Berlin NW, Moltkestrasse 8) to the editors of the magazine on November 7, 1914. In this letter, the General Staff asked the photographic association and its members to provide visual material concerning the warfare in order to complete the war image collection that the military press department of the General Staff (Presse-Abteilung des Stellvertretenden Generalstabs IIIb) was creating. This request, unlike the previous instructions, implicitly encouraged amateurs to take pictures of military scenes. This new involvement of photo amateurs prevented the military press department from turning to foreign-owned companies for the reproduction of images of war (Hanneke et al. 1914, 322). Finally, in December 1914, Paul Gebhardt, publishing the article *Die Liebhaberphotographie in Kriegszeiten* (Amateur photography in wartime), gave technical instructions on the most suitable equipment to carry to the front:

Some members of the field army may wish to have a photographic device being forwarded. Given the extreme limitations on the luggage carried, only the smallest format $4\frac{1}{2} \times 6$ cm, or $6\frac{1}{2} \times 9$ cm at the most, can be considered, and films can be used as recording material because of their lightness and convenient changing. These devices give, however, only the smallest pictures, but the sharp delineation of a good lens allows enlargement to a sufficient size. A fast-acting instantaneous shutter is essential for moving objects. Only in the rarest of cases, it will be possible to develop the films on the spot; rather, they will have to be sent home, and given the high values of these recordings, great care must be taken during development so that nothing is lost.¹⁴

¹³ The censorship regulations for photographic and cinematographic war reporting, *Anweisungen für Kriegs-Photographen und Kinematographen*, were written by Oskar Messter—a pioneer of the early German cinema and well-established film and projector producer—who served in the press department of the Deputy General Staff in Berlin. Messter also designed aerial mapping cameras and other devices for the marine and aviation corps (Koerber 1994, 66–67). Some of them are described in the sections 3.1 and 3.2.

¹⁴ My translation; original: “Von manchem Angehörigen des Feldheeres wird vielleicht der Wunsch auf Nachsendung eines photographischen Apparates ausgesprochen werden. Bei der äußersten Einschränkung des mitgeführten Gepäcks kann nur das kleinste Format $4\frac{1}{2} \times 6$ cm, höchstens $6\frac{1}{2} \times 9$ cm, in Betracht kommen und als Aufnahmematerial Filme, wegen ihrer Leichtigkeit und des bequemeren Wechsels. Die Apparate geben allerdings

In 1915, the German Society for Photography (Deutsche Gesellschaft für Photographie) called on its members to send unused cameras to the fronts. The fact that photographic amateurs' magazines amply covered the topic of war photography, giving technical suggestions to their members, is not surprising, especially considering that amateurs, unlike professional photographers, had mainly focused on outdoor subjects (e.g., landscapes) even before WWI. Moreover, the special attention given to photography in the time of war, boosted by the need to produce visual memories of an exceptional military event, helped the photographic associations to promote the central role of amateur photography for the entire society: an essential "stone in the huge building of our culture" (Stein in dem gewaltigen Gebäude unserer Kultur) (Hanneke et al. 1914, 313). The international scope of the prewar German photographic magazines was obviously replaced by a more explicit national character.¹⁵ This implied moving away from foreign styles, such as the "haziness" suitable for the British climatic condition or the "brashness" of French photography.¹⁶ In other words, the specialized press for photographers read the transformative experience of war as a chance to find the national distinctiveness of German photography.

By the end of 1914, the photographic activity of amateurs was largely accepted, and in some cases also encouraged. Despite prohibitions and sanctions that threatened unofficial photographers—but also considering that amateurs' violations were rarely prosecuted—soldiers (particularly military officers) took photographs to an unprecedented extent. Thus, WWI represented an enormous theater of war (*Kriegsschauplatz*) not only from a military point of view; it was literally perceived as a stage on which military operations, technological innovations, and soldiers' lives could be constantly performed, photographed,

nur kleinste Bildchen, aber die scharfe Zeichnung eines guten Objektivs gestattet die Erweiterung auf eine hinreichende Größe. Ein schnell arbeitender Augenblickverschluss ist für in Bewegung befindliche Objekte unerlässlich. Die Entwicklung der Filme wird wohl nur im seltensten Falle an Ort und Stelle erfolgen können; sie werden vielmehr in die Heimat gesandt werden müssen, und bei dem hohen Werte dieser Aufnahmen ist größte Vorsicht bei der Entwicklung notwendig, damit nichts verloren geht." (Hanneke et al. 1914, 330)

¹⁵ Cf. original: "Sie [Die Fachpresse] muß sie aber ganz und gar auf nationale Gesichtspunkte einstellen. Sie muß nationale Vorbilder zu geben suchen, sie muß einen möglichst vollständigen Überblick über alle künstlerisch-photographischen Strömungen in deutschen Landen zu geben suchen [. . .]. Jeder einzelne und jeder Verein, kurz die Gesamtheit der Liebhaberphotographen möge sich also auf dem Posten finden lassen, damit auch auf unserem Gebiete durch das Zusammenarbeiten aller Kräfte Deutschlands Macht und Deutschlands Stärke gerade in dieser schweren Zeit offenbar werde." (ibid., 315–16)

¹⁶ Cf. original: "Sie übernahmen die Tonigkeit und Unschärfe, die in den klimatischen Verhältnissen Englands am Platze ist, vielfach kritiklos unter unseren veränderten Bedingungen, sie ahmten kleine stilistische Eigenarten und Kühnheiten der Franzosen nach." (ibid., 315)

and reproduced in the printing press. The actual attempt to coordinate photography as a means of manipulating public opinion was realized in 1917, when the Oberste Heeresleitung (OHL, Supreme Army Command) established the *Bild- und Filmamt* (BUFA): a centralized system of visual propaganda. Even though it failed to fundamentally alter the opinion of the masses, this office financed war correspondents, and it regulated and distributed photos and films on the front, in the homeland, and in neutral countries. Moreover, BUFA supervised censorship, which, from an arbitrary practice defined by vague indications, became formally regulated by the Prussian War Ministry through guidelines gathered into the 1917 *Zensurbuch für die deutsche Presse*. Strict restrictions concerned the representation of the German fallen both in written and photographic forms. Just as long collective obituaries were prohibited (a maximum of five to six names were acceptable), the publication of dead bodies was undesirable (Oberzensurstelle des Kriegspresseamts 1917, 16/73). The absence of cruel scenes was also mentioned in articles dealing with the collective function of photography in the war. The *BIZ* piece *With the camera at the front* (Mit der Kamera an der Front), which included the photo of the *Kriegsfotograf* described at the beginning of this section, discussed the lack in the press of photos showing the effects of the battle on the soldiers' bodies.

Of course, not all the war photographers' pictures are made public now. A large part must be withheld for military reasons. Similarly, no pictures showing atrocities of war will now be published, e.g., a battlefield shortly after the fight. However, they do show a very important and serious side of the war and, when published after the war, will hopefully help prevent future wars through the terrible intensity of their sad scenes.¹⁷

Far from being a pacifist declaration, this piece needs to be read in the context of the editors' struggle to satisfy the public request for visual war reports. Despite a more comprehensive photographic coverage in WWI compared to previous conflicts, the press faced a shortage of engaging material due to both practical difficulties photographing the battlefield during an attack and the restrictions imposed by military censorship in showing the actual aftermath. At

¹⁷ My translation; original: "Natürlich gelangen jetzt noch nicht alle Bilder der Kriegsfotographen an die Oeffentlichkeit. Ein großer Teil muß aus militärischen Gründen zurückgehalten werden. Ebenso wird man jetzt keine Bilder veröffentlichen, die die Greuel des Krieges zeigen, z. B. ein Schlachtfeld kurz nach dem Kampf. Aber sie zeigen doch eine sehr wichtige und ernste Seite des Krieges und werden, wenn sie nach dem Kriege einmal veröffentlicht werden, durch die furchtbare Eindringlichkeit ihrer traurigen Szenen hoffentlich dazu beitragen, künftige Kriege zu verhüten." (*Berliner Illustrierte Zeitung* 1915e, 411)

the same time, editors justified the visual absence of the actual combat with the limitations imposed by the intrinsic nature of the modern battlefield.

According to the article, the dangerous activity of the war photographer raising his camera over the edge of a front-line trench, without even being able to look through the viewfinder, did not produce exciting shots. In other words, photographing the battlefield was not worth the risk. Ernst Jünger clearly described this tangible danger: "To finish the bad luck, Lieutenant Ewald came to our sector today to photograph sap N, which is only 50 meters from the trench. As he turned to get down off the fire-step a shot shattered the back of his head. He died instantly" (Jünger 1920, 47). Even taking the risk of being killed by snipers, the photographer would have produced blurry images of a monotonous landscape composed of wires and barricades, which was far from being a heroic representation of war.

The *BIZ* article also compared a German picture of a (supposedly) real French assault to the German lines at the Meuse with a French staged photo of an intrepid attack during the Second Battle of Artois (fig. 2.10). The publication of the German photo aimed at showing the modern battlefield, "honestly" recording a "real" assault from a distance. In this picture, soldiers were like small black dots in a wide field, and only clouds of smoke produced by the Shrapnel shells suggest that a battle is underway in this landscape. The French full shot, on the contrary, portrayed a compact group of French soldiers that bravely advanced against the enemy. Giving their profile in the act of running up the hill, the French soldiers raised their rifles in a heroic cohesion, which was only interrupted by the falling of some of them shot by the German army. Accusing the French snapshot of being appositely staged in front of a photographer, the *BIZ* article warned its readership against enemy photographs used to discredit the German military at the front. Addressing the photographic difficulties in recording military events and also admitting the sometimes necessary practice of staging scenes (especially in cinematographic representations of the front), the article aimed at offering the German public the necessary knowledge to interpret war photography, implicitly affirming the honest approach of the German press in presenting visual reports. In doing so, German illustrated magazines also cited photographs that appeared in foreign newspapers. The use of these pictures in the German press served to accuse the foreign newspapers of celebrating fake photographic heroism, as well as remarking on interesting pictures whenever they seemed to portray Germans prevailing over the enemy.

Berliner Illustrirte Zeitung.

410

Nr. 30



Wie die Franzosen sich Photographien von Heldentaten verschaffen: Ein Sturmangriff auf die Voretto-Höhe.
Die Szene ist natürlich nicht während des Kampfes aufgenommen, sondern von Soldaten et. em Photographen vorgepielt worden. (Aus einer französischen Zeitschrift.)

Schauung oder nach Erzählungen von Kriegsteilnehmern nachträglich malen konnte, heute gar nicht mehr möglich sind. Selbst wenn der Kriegs-Photograph unter Lebensgefahr in den vordersten Schützengruben geht und dort eine Aufnahme macht, so wird das Bild in den meisten Fällen eine höchst langweilige Landschaft zeigen, die nur durch Drahtverhaue und frisch aufgeworfene Erdwälle gekennzeichnet ist; denn der Feind, wenn er auch nur 50 Meter entfernt ist, liegt natürlich genau wie der Deutsche hinter diesen Drahtverhaue und Erdwällen tief in den Gräben, so daß der Photograph in solchen Fällen das Leben für ein ziemlich uninteressantes Bild wagt. Eine solche Aufnahme in der vordersten Stellung muß sehr geschickt vor sich gehen. Der Photograph darf nur einmal ganz kurz den Apparat über den Rand der Brustwehr emporheben, den Verschluss lösen und muß sofort wieder verschwinden. Würde er ein zweites Mal an dieser Stelle auftauchen, so wären ein paar wohlgezielte Schüsse von der anderen Seite ihm sicher. Auch das Photographieren durch den Schützengruben ist nicht ungefährlich, denn im Laufe der Zeit haben sich Hüben und drüben unter den Soldaten Scharfschützen herausgebildet, die mit größter Sicherheit auf ein paar Hundert Meter Ent-

fernung in den Beobachtungspalt der feindlichen Stellung hineinschießen. Deshalb muß sich der Photograph darauf beschränken, das Leben der Soldaten hinter der Front zu schildern. Sie ist auch kein dankbares Gebiet, denn hier ist die einzige Möglichkeit, malerische Szenen zu finden und interessante Bilder auf die Platte zu bekommen. Noch seltener als der Photograph wird sich der Mann mit der Kinematographen-Kamera in die vordersten Linien wagen, denn er braucht für seinen Aufnahmelaß eine feste Unterlage, also ein hochbeiniges Stativ oder den Rand der Brustwehr und ist also feindlichen Schüssen noch mehr ausgesetzt. Wohl sieht man heute in allen Kino-Theatern Films, auf denen sich Sturmangriffe, Gefechts-Szenen und ähnliches abspielen. Diese Bilder sind wohl fast alle gestellt; d. h. der Kinograph hat einen Trupp Soldaten veranlaßt, ihm die Szenen, wie sie sich etwa in Wirklichkeit begeben würden, für die Aufnahme vorzuspielen. Es ist wohl klar, daß ein Film, der etwa vordringende Pioniere beim Zerschneiden von Drahtverhaue zeigt, nicht echt sein kann, denn wenn auch der einzelne Soldat sich beim Vorgehen von Deckung zu Deckung bewegt, so müßte der Photograph, um Aufnahmen zu machen, viel häufiger frei heraustreten und würde sofort abgeschossen werden. Gegen diese „gehellten“ Aufnahmen ist aber nichts einzu-



Wie eine echte Photographie eines Sturmangriffs aussieht: Französischer Angriff auf die deutsche Linie an der Meuse.



Photographische Aufnahme eines plaudenden Schrapnells mit der charakteristischen Rauchwolke.

FIGURE 2.10: Comparison between French and German war photography in a 1915 BIZ article (Berliner Illustrirte Zeitung 1915e, 410).



(a) Berliner Illustrirte Zeitung (1915e, 409)



(b) Daily Sketch (1915, 1)

FIGURE 2.11: British and German armed forces facing each other. The picture was one of the soldiers' snapshots that won the British newspaper's competition. It also appeared in German magazines.

This is the case of the last photo included in the *BIZ* article “With the camera at the front,” which shows a German attack from the enemy’s perspective (fig. 2.11a). The picture was first published in the English newspaper *Daily Sketch* (although the *BIZ* omitted the name of the foreign press). Taken from the ground perspective of a trench, the snapshot shows in the foreground a group of English soldiers turning away from the lens while hiding in the ground with their bayonets. They are awaiting the Germans that, like little figurines in the background, are advancing. The photo was supposedly been taken before the combat between the two armies. The picture’s caption in the *BIZ* simply reports: “A supposedly real photograph, which shows the assault of the Germans (the little figurines in the background). From an English newspaper.” However, analyzing the entire article, at one point the text refers again to English war photography in these terms:

Some interesting and undoubtedly genuine images of war have come from the English side, especially in the Dardanelles fighting when one of the great English battleships sank one at a time. Here the photographers were English officers who seized the opportunity to take their enthusiast photos

with great cold-bloodedness.¹⁸

The reference to the Allied failure of the Dardanelles campaign, which was the only mention of English photography in the text, implicitly led the reader to associate this passage with the picture republished in the *BIZ* after appearing in the *Daily Sketch*. The victory of the Central Powers in Gallipoli, mentioned in the text, also consolidated the symbolic meaning of the photograph, in which English soldiers squatting on the ground were visually subordinate to the German army that was advancing in the open field. Thus, the Central Powers' success in the Dardanelles against the Allied naval attack was transposed in the photo of the armed ground conflict between the German and English armies, which actually took place in Flanders during the Second Battle of Ypres (although the geographic reference did not appear in the *BIZ*) (Struk 2011, 37–38). Taken by a member of the King's Liverpool Regiment, the picture first became popular in Britain. For instance, it appeared on the cover of the July 31, 1915 *Daily Sketch* with the headline “£600 for the finest picture of the war” and was accompanied by a caption that informed: “We reproduce it absolutely untouched” (*Daily Sketch* 1915, 2) (*Daily Sketch* 1915, 2). This photo was one of the winning soldiers' snapshots submitted for the competition run by British illustrated newspapers *Daily Mirror*, *Daily Sketch* and *Daily Mail* (fig. 2.11b). The *BIZ* editors republished this photograph taking it from one of these British newspapers.

The written passage and the photo appearing in the *BIZ* referred to two completely different military events: one took place in the Dardanelles and the other on the Western Front. However, German propaganda presented description and image as perfectly complementing each other through a subtle communication strategy aimed at showing German supremacy in actual warfare.

Most of the German articles published during 1914-1918 concerning the topic of soldiers' photography designated the camera as the best tool to create personal and collective memories of war. These contributions also highlighted the capacity of WWI images to equally compete with words in reporting the evolution of the conflict. The fact that, for the first time, photographs could

¹⁸ My translation; original: “Einige interessante und zweifellose echte Kriegsbilder sind von englischer Seite gekommen, besonderes in den Dardanellenkämpfen, als eins der großen englischen Schlachtschiffe nach dem andern unterging. Hier waren die Photographen englische Offiziere, die die Gelegenheit benutzen, mit großer Kaltblütigkeit ihre Liebhaberaufnahmen zu machen.” (*Berliner Illustrierte Zeitung* 1915e, 411)

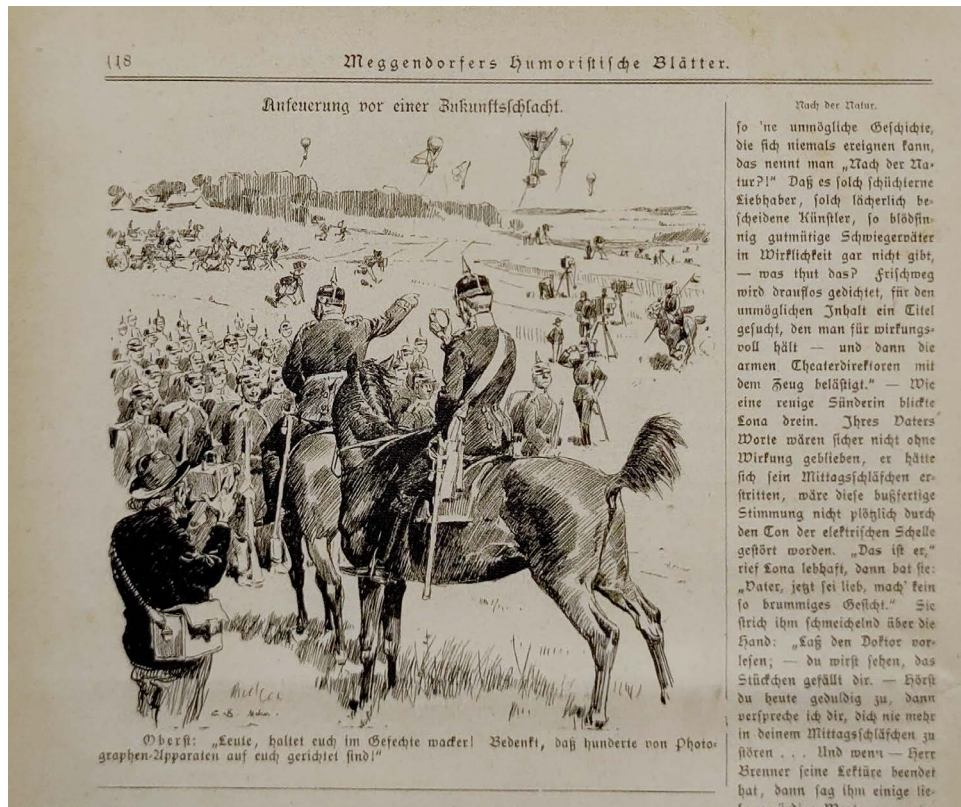


FIGURE 2.12: C.B. Mohn, “Instructions before Battle in the Future” (*Meggendorfers humoristische Blätter* 1900, 118; Zervigón 2017, 70).

circulate on a large scale was recognized as the opportunity to offer “reasonably truthful picture of the events.”¹⁹ A prophetic 1900 satirical illustration titled “Instructions before Battle in the Future,” showing a battlefield full of soldiers and cameramen with balloons equipped with optical devices, partially became the everyday reality between 1914 and 1918 (*Meggendorfers humoristische Blätter* 1900, 118) (fig. 2.12).

However, the novel role of photography as a documentary tool for producing visual reports (“bildliche Berichterstattung”) was questioned by the mediatic war between the national presses of the major belligerent powers. The photo device soon became a machine of national propaganda. Even though the WWI German press never explicitly tackled the use of photography as national indoctrination, many newspapers and magazines discredited foreign rivals by publicly unmasking their photographic strategies for influencing public opinion. This practice implicitly started to undermine the myth of photographic

¹⁹ Cf. original: “Zum ersten Male hatte die Photographie während der Balkankriege Gelegenheit, sich als Mittel der Kriegsberichterstattung neben dem geschriebenen Wort zu betätigen. [...] Daß der Heimat ein einigermaßen wahrheitsgetreues Bild der Ereignisse geliefert werden konnte, ist zum großen Teil ein Verdienst des Kriegsphotographie, die im Weltkrieg auf breiterster Grundlage angewendete worden ist.” (Expertus 1919, 62)

objectivity, spreading the concept of manipulation and photographic omission of parts of reality.

Consequently, during the warfare, photography was appreciated for its symbolic function more than as a document. According to German commentators, a picture representing a military event should “be watched not only through the eyes, but also with the heart.”²⁰ The German press favored scenes taken in the rear (in the operational areas where soldiers were preparing themselves for war) aiming at causing emotional appeal in the viewer while assuring truthfulness. Besides the practical difficulties and the censorship that prevent photographers from taking pictures from the frontlines, the images from the rear were propagandized as more “interesting” and “picturesque” (*Berliner Illustrirte Zeitung* 1915e, 410). “The massive gearing mechanism of the war became entirely visible here,” and all its enormous technological power contrasted with the “emptiness of the modern battlefield” that stretching over large geographical areas lacked peculiar targets for the lenses of war photographers.²¹ The absence of the infantry advancing with colored ensigns and attacking the cavalry with sabers left a desolate battlefield unsuitable for being photographed following the nineteenth-century tradition. A militarized piece of land in which soldiers were hidden in the terrain, struggling to become invisible, was a completely new subject in photography and an image difficult to interpret by contemporary reporters.

²⁰ Cf. original: “Darum soll man alle Bilder, die von Kriege erzählen, nicht nur mit den Augen, sondern auch mit dem Herzen ansehen.” (ibid., 64)

²¹ Cf. original: “Zunächst war da die berühmte ‚Leere des modernen Schlachtfeldes‘. [...] Außerdem spielte sich das malerische Leben und Treiben hinter der Kampflinie ab. Hier boten sich einziehende und bewegte Bilder. [...] kurzum, das gewaltige Getriebe des Krieges wurde hier voll sichtbar.” (ibid., 63)

2.2 *Feldpostkarten: Cityscapes, Ruins, Rubble, and the Innere Landschaft*

Ich bin gesund, und es geht mir gut.

[. . .]

Züruck † Gefallen für Vaterland!

The entire intimate interconnection between soldiers at the front and their loved ones in the homeland lay between these two phrases.²²

Field posting was the essential way of corresponding in WWI, and a crucial tool for boosting the morale of the troops. Soldiers could send mails free of charge, being, however, subject to censorship. It has been estimated that within the over 28 billion mailings (telegrams, letters, packages) between the front and Germany during the duration of the war, field postcards constituted circa one-fifth of the total amount (Schracke 1921; Ulrich 1997, 22; Brocks 1998, 155; Flemming 2007, 67–68; Nübel 2014, 245).²³ Among the massive volume of mails privately sent by soldiers in warfare, postcards were the only medium that intersected text and image.

WWI postcards, following the tradition of the picture postcard (*Ansichtskarte*), were thin cardboards of circa 14 × 9 cm that presented a message and the address of the recipient on the front, while a picture (illustration or photograph) on the reverse. Thus, the front of field postcards was usually handwritten, and two stamps indicated the date of dispatch and the number of the soldier unit (fig. 2.13).²⁴ In addition, the name or the logo of the publisher was typically communicated, especially after 1916 when the *Zensurbuch*

²² “I am healthy, and I am doing well” was a phrase written in many letters sent by German soldiers to their families. Instead, the expression “Return to Sender † Fallen for the Fatherland!” was stamped or written in pastel in the mail that was returned to soldiers’ relatives after the serviceman’s death. “Ich bin gesund, und es geht mir gut” was also the title of letters and memoirs collections published after WWI (Schöpflin 1931). See also the well-illustrated catalog of the exhibition *Es geht mir gut: deutsche Feldpost von 1870 bis 2010* at the Bundeswehr Museum of Military History – Berlin-Gatow Airfield displayed in 2012 (Ruby and Frei 2012, 22–51).

²³ For exploring the war experience of German soldiers through letters, see also Ziemann and Ulrich’s English-language publication (2010).

²⁴ For studies concerning WWI motifs (both photographed and illustrated) on postcards sent by German soldiers (*Feldpostkarten*), see Flemming (2004, 2007) and Brocks (1998, 2008). With numerous photographic examples of field postcards, an interesting case study is the WWI correspondence of the student organization *Turnerschaft Philippina-Saxonia zu Marburg* (Kleifeld 2019). For the history of the relationship between photography and postcards at the end of the nineteenth century, see Walter (1995).

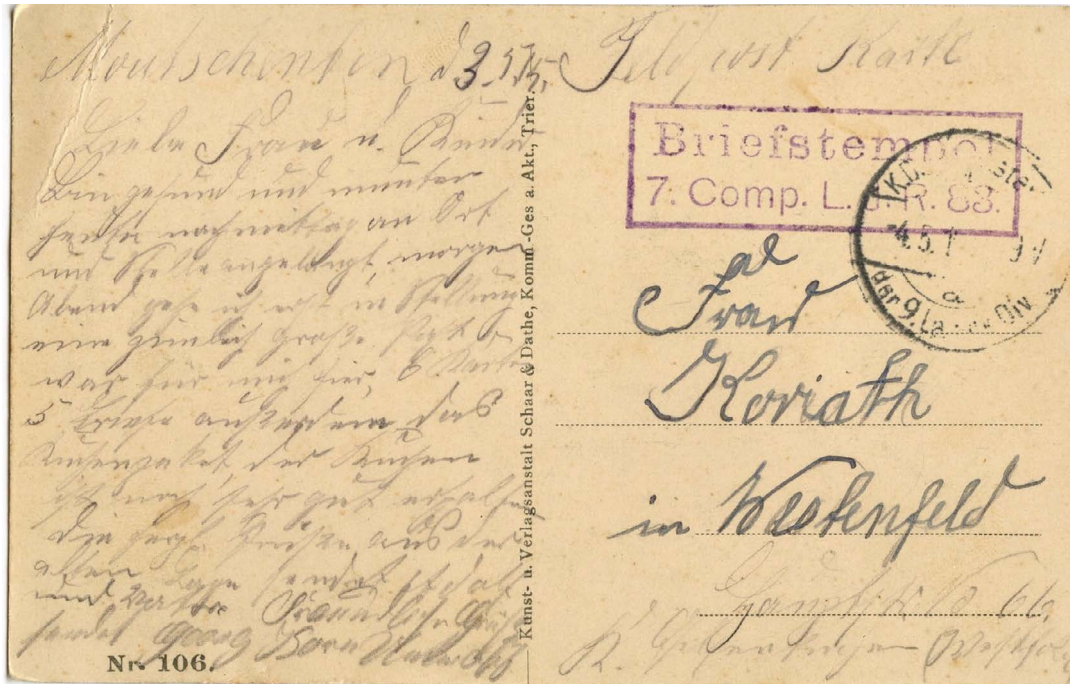


FIGURE 2.13: A field postcard written by Adolf Koriath to his wife Wilhelmine from Western Front in May 3, 1915. Koriath was a soldier in the 7th Company of Landwehr Infantry Regiment No. 83 (as the stamp reports).

(censorship book for the German press) declared that postcards circulating without mentioning the publishing house could be confiscated.²⁵

At the beginning of the war, however, it was common to encounter French and Belgian postcards sent by German soldiers (such as the ones produced by Ern. Thill, rue Simonis, 20-22 Bruxelles). In fact, before the German postcard industry converted its international exportation into various branches on the Western and Eastern Fronts, postcards sold in the shops of the occupied territories presented local prewar motifs. The urban landscapes of France and Belgium, depicted photographically on postcards since the last decade of the nineteenth century, became a popular subject sent by the German troops, which intended to show their loved ones the foreign destinations where they were fighting. Similarly, since the theatre of war gradually extended beyond the Western and Eastern fronts, including the Southern theatres (the Balkans, the Gallipoli peninsula, and the Middle East), postcards sent by German soldiers also portrayed cities like Tirana, Cairo, Constantinople, Jerusalem, Damascus, etc. This trend consisted in a mixture of the touristic habit of sending “Grüsse aus der Ferne” (greetings from a distance) and the necessity of documenting

²⁵ See Oberzensurstelle des Kriegspresseamts (1917, 4, 47) and Ulrich (1989).

an “extra-ordinary” experience.²⁶

Within the variety of motifs represented on WWI postcards (sentimental themes, comradeship illustrations, activities of the Red Cross, political and military portraits, representations of the German Kaiser, Christmas and Eastern greetings, satirical vignettes, famous pinups like *Fraulein Feldgrau*, among others), this chapter focuses on the category of the photographed landscape sent in the form of postcards (*Fotopostkarten*) by German soldiers. This specific type of photographic representation mainly showed urban scenes mass reproduced by commercial publishing houses as well as landscapes privately photographed by soldiers. By analyzing this material, the following section inevitably reflects on a new type of urban environment appearing on the postcard: the destroyed cityscape reduced to rubble. This new idea of space differed from both the concept of ancient and romantic ruins as well as from the nuclear annihilation reached in WWII. Hidden by these conceptually powerful extremes (romantic decline and nuclear destruction), a critical reflection on WWI ruins has been an underestimated subject of study outside French-speaking scholarship (Reinhardt 1983; Reau 1994; Danchin 2015; Daum 2016).²⁷ Positioned between these two extreme poles, however, the WWI destroyed cityscapes may be interpreted as the transition moment between the heritage of the eighteenth-century ruins and the yet-to-come twentieth-century category of rubble.

A common practice among German soldiers volunteering or conscripted into the army consisted in realizing a photographic portrait of themselves in full uniform before leaving for the military service. Military portraits were widespread even before WWI and testified a proud sense of belonging to a highly respected social status (Dewitz 1989, 121–32). However, the main reason encouraging German soldiers to take photographic self-portraits in 1914

²⁶ WWI German postcard collections are available online at: Stadtarchiv Karlsruhe 8/Alben 341 Erster Weltkrieg - Postkarten “Aus großer Zeit 1914/15,” Lebendige Museum Online (LeMO) for German history, Eisenbahn-Postkarten-Museum, Museum für Kommunikation Berlin, Historische Bildpostkarten der Universität Osnabrück, Bowden Postcard Collection Online at the Miami University Library, German World War I photographic postcards collection (Paul Hoffmann & Co) at the New York Public Library. On the Europeana website, see the collections: Feldpostkarten von Franz Dick (1885-1947), Postkartenalbum (Fam. Groß-Bürkle), Postkarten vom Kriegsschauplatz (Familie Bühler), and Maria von Stutterheim’s album. Many German archives hold rich postcard collections that are not digitalized, e.g., the Deutsches Historisches Museum (2002). The Kriegsarchiv in Munich houses circa ten thousand pieces, of which 3,957 motifs were censored by the Ministry of War of the Kingdom of Bavaria.

²⁷ It is enough to mention as an example *Ruinenbilder* (Assmann et al. 2002), an interdisciplinary collection of essays on the topic of ruins from Middle Age to Postmodernity, that mentions the WWI only in one sentence. A notable exception is instead *From Monuments to Traces* (Koshar 2000).



FIGURE 2.14: Postcard 1914-1918 with a photograph of a German soldier in uniform taken by the professional photographer Joseph Werner (Munich).

was the contingency to leave their families after the sudden call-up to participate in an exceptional event. Since the first phases of the mobilization, WWI appeared a historic moment (*die Große Zeit*) that deserved to be recorded and fixed in the collective memory. Many of these portraits of soldiers were taken in professional photographic ateliers, following nineteenth-century photographic aesthetic canons. Peculiar of these photos was the fabricated landscape that appeared behind the soldiers. Hand-painted backdrops provided an illusory environment, which included actual furniture or props that served to blend the atelier space with the bidimensional painted background. Columns, plinths, and other architectural elements were represented in the middle of luxuriant natural landscapes often embellished by ponds (fig. 2.14). Therefore, by comparing photographs taken in ateliers of different cities of the German Empire—the Adalbert Werner studio in Munich, the Atelier Hermann Walter in Leipzig, the Atelier für künstlerische moderne Photographie of Max Feist in Stuttgart, and even the Atelier Carl Bonath in Thorn (Toruń)—it is possible to affirm that popular motifs painted on the background of studio portrait photography were idyllic and picturesque landscapes with ruins. Even though the soldier occupied the central portion of the picture in order to acquire importance in the

photographic composition, at the margins of the artificial backgrounds were positioned fragments of antiquity and gothic buildings, testifying that ruins were a well-established element of the German visual culture at the outbreak of WWI.

In the nineteenth century, remains of fortresses and castles entered the German collective imagery through a series of postcards, illustrated publications, and prints portraying picturesque atmospheres on the river Rhine. Boosted by the literary and aesthetic movement known as Rhine Romanticism (*Rheinromantik*), the Rhine Valley gained popularity all around Europe, attracting upper-class travelers (particularly English aristocrats, thanks to Lord Byron), who followed the Grand Tour and aimed at studying the ancient ruins of Rome and Naples passing through the scenic landmarks on the Rhine (Tümmers 1968). Later, thanks to the railway and the steamship service, also mass tourism developed in the Rhine Gorge (between the cities of Koblenz and Bingen), which was constellated with Roman and medieval ruined architectures left after the Thirty Years' War. The combination of historic ruins, rough rocks, and terraced vineyards made the Rhine Valley a natural monument and a national symbol, circulating on prints all around the German Empire. Even standardized travel guides included spectacular views, such as the famous ruins of Burg Drachenfels.²⁸ Thus, as a response to the increasing industrialization and urbanization of Germany, the cultural landscape of the Rhine composed by a harmonic mixture of natural elements and ancient human history was also envisioned as an alternative to the draining industrial modernity.

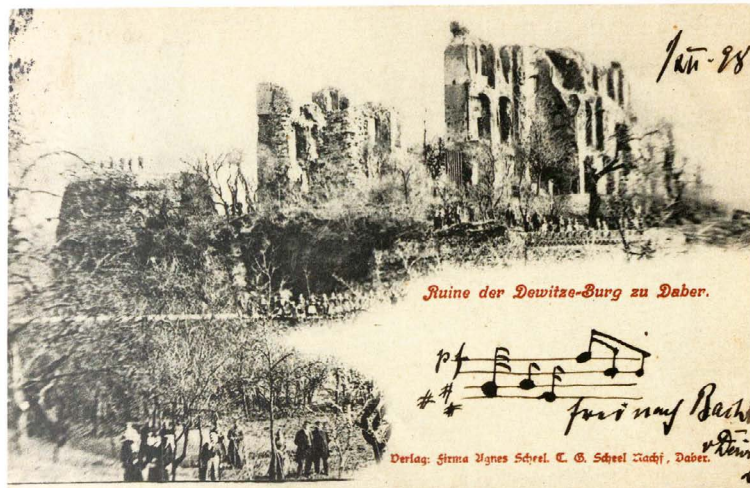
However, the element of ruins was not only circumscribed to the Rhine region, but it became a recognizable icon that owned a symbolic aura. At the turn of the century, scenic ruins became the calling card of many cities that, advertising urban landmarks or natural landscapes, used images of ruins as a souvenir on photographic postcards. This kind of marketing strategy also occurred outside big metropolises and popular touristic routes, concerning even

²⁸ The first travel guide of the Rhine, *Rheinreise von Mainz bis Köln, Handbuch für Schnellreisende* (A Rhine Journey from Mainz to Cologne; A Handbook for Travellers on the Move), was written by the historian Johann August Klein and published by Franz Friedrich Röhling in Koblenz in 1828. After the publisher Karl Baedeker acquired the Röhling firm, a second implemented edition of the guide was made public in 1835 and immediately gained popularity. The itinerary along the Rhein described in the travel guide was extended in 1846, when the book *Rheinreise von Basel bis Düsseldorf* appeared (Klein 1849). Besides city maps, the 1849 version of the guide also included fifteen landscape representations, called in German "Ansichten" (views, vistas). In addition, Baedeker published a volume made of forty-five aquatints with captions in German and French that portrayed the Rhein Valley (Baedeker 1834).

small agricultural towns and villages. This is the case of Daber, a remote village in West Pomeranian (today Dobra, Łobez County in Poland). A series of photographic postcards (some of which were overprinted with colors) clearly indicated the castle ruins as the main attraction of this town (fig. 2.15). These architectural remains served to advertise Daber, especially when a railway was built in 1985 connecting the small town with Stargard (Dewitz 2013, 135–57). The region of Pomerania also housed the famous Ruins of Eldena Abbey. On the outskirts of Greifswald, the birthplace of the painter Caspar David Friedrich, the remains of a former Cistercian monastery acquired a renewed public interest in the first decades of the nineteenth century after Friedrich used these gothic ruins as an evocative element in many of his paintings. In Friedrich's work, the imposing presence of relics of the Middle Ages positioned in the vast landscape manifested the insignificance of humankind in the face of the divine nature, and they were a metaphor for the transience of life. Even though Friedrich's art passed into oblivion after his death and was then rediscovered at the turn of the twentieth century, his landscapes fostered the renovation of the Eldena Abbey site in 1828, which was redesigned by the Prussian landscape architect Peter Joseph Lenné (Schmitt 1944).

The previous representations of ruins have been taken from mass culture, with the example of the postcards of Daber, and from art history, with the twentieth-century rediscovery of Friedrich's symbolism. Both contexts of low and high culture show that the motif of ruins was widespread in Germany before WWI and, at the same time, surrounded by a mystical aura derived from romantic interpretations. By claiming that the aesthetic element of ruins was widespread in German visual culture, one also needs to consider the literary and philosophical connotations of this motif. This further clarification contributes to better defining differences and similarities between the romantic ruins and WWI rubble. Within the *Sturm und Drang* movement, the poet Jakob Michael Reinhold Lenz described the ruins of the Hochburg, near the city of Emmendingen (region Baden), saying: "Nature destroys castles in order to produce more wonderful objects for art."²⁹ Condensing the historical concept later known as *Ruinenromantik*, this declaration implicates that ruins were the perfect synthesis between art and nature, growth and decay, creation and annihilation. Thus, romantic ruins were not exclusively metaphor for a "memento

²⁹ My translation; original: "Die Natur zerstört Schlösser, um herrlichere Gegenstände für die Kunst hervorzubringen." (Lenz 1910)



„Ruine der Dewitze-Burg zu Daber“
 Postkarte, Verlag Firma Agnes Scheel,
 T. G. Scheel Nachf., 1898



„Gruss aus Daber. — Dewitzburg“
 Postkarte, Verlag Rudolf Hahn, Daber, 1905

FIGURE 2.15: Postcards portraying castle ruins in Daber (West Pomeranian) at the turn of the century (Dewitz 2013, 140).

mori,” as in the Baroque period,³⁰ but they also symbolized the harmonic unity of the historical and cultural dimensions with the natural world. If a human construction that falls into ruin was subject to a loss and a reduction of its initial design, it also gained a new enhanced status (Werner 1976). As a romantic aesthetic concept, the constitution of ruins was determined by the transformation and return of the built object to a natural growth. The perfect equilibrium between human and natural intervention was clarified by Theodor Fontane in *Wanderungen durch die Mark Brandenburg*, where he further delineated some constitutive elements of the ruins referring to the Chorin monastery:

Unfortunately, this structurally beautiful ruin lacks what is actually picturesque. Ruins, if they are not to be described merely according to the number of pillars and windows, as if one was taking an inventory, must be at once a landscape or also a genre picture. Their poetry is rooted in one or the other, preferably in the interaction of both.³¹

Positioning the representation of ruins within the hierarchies of figurative art, which traditionally saw the history painting at the top of the scales of values while the still life at the bottom, Fontane highlighted that the aesthetic characterization of ruins is based on the picturesque attributes (*die malerisch zerfallenen Innenräume*). In Germany, the romantic sensibility and popular fascination for ruins were in fact greatly influenced by the English picturesque taste. This aesthetic ideal recognized ruins as one of the greatest ornament of a landscape, and in the words of William Gilpin: “from a *smooth* building we must turn it into a *rough* ruin” (Gilpin 1792, 7–8). The irregularity and roughness of picturesque were features that Fontane did not find in the ruins of Chorin. The remains of Chorin Abbey were not enough rubble (“die [Ruine] kaum Trümmer sind”). For the picturesque and romantic canons, the architectural complex of the monastery lacked, in its appearance, that “ruinous” character determined by the natural collapse of the structure.

At the same time, however, “the metaphysical-aesthetic charm of the ruin disappears when not enough remains of it to let us feel the upward-leading tendency. The stumps of the pillars of the Forum Romanum are simply ugly

³⁰ The positive interpretation of ruins will be later highlighted also by Georg Simmel: “Perhaps this is the reason for our general fascination with decay and decadence, a fascination which goes beyond what is merely negative and degrading.” (Simmel 1911)

³¹ My translation; original: “Leider geht dieser baulich schönen Ruine das eigentlich Malerische ab. Ruinen, wenn sie nicht bloß, als nähme man ein Inventarium auf, nach Pfeiler- und Fensterzahl beschrieben werden sollen, müssen zugleich ein Landschafts- oder auch ein Genrebild sein. In einem oder im andern, am besten in der Zusammenwirkung beider wurzelt ihre Poesie.” (Fontane 1873, 472)

and nothing else, while a pillar crumbled—say, halfway down—can generate a maximum of charm” (Simmel 1911, 384). The famous Georg Simmel’s essay *Ruine*, written in 1907, clarifies that, even though architecture cannot appear intact for being classified as ruins, as Fontane suggested, it should not completely collapse into the “formlessness of mere matter” either, because it will be otherwise interpreted as a “heap of stones.” Ruins embody the equilibrium between contradictory forces: the human spiritual tendency to create (“human purposiveness” to erect against gravity) and the spontaneous energy of natural processes (“downward-dragging, corroding, crumbling power”). Therefore, ruined buildings symbolize reconciliation between human and natural elements in the modern life. Ruins need to be comprehensible in their specific structure, showing echoes of a human past, being, at the same time, perfectly inscribed and harmonically blended into the landscape to form a new self-sufficient unity. “Einheit” (unity) is indeed a recurring word in Simmel’s piece, who uses it in many forms: “aesthetic unity,” “unity of belonging,” “unity of all things,” “unity of organic growth,” “larger unity,” “unity of the form,” “unity of tint, a reduction to the same common denominator of color.” Simmel adds another interesting point for the present study by affirming:

[. . .] many Roman ruins, however interesting they may be otherwise, lack the specific fascination of the ruin—to the extent, that is, to which one notices in them the destruction by man; for this contradicts the contrast between human work and the effect of nature on which rests the significance of the ruin as such. (ibid., 380)

From an aesthetic point of view, if the artifact is evidently destroyed by humans, instead of decaying due to the growing effects of nature, it cannot be included in the category of ruins. Therefore, an internal distinction between ruins and rubble seems implied in Simmel’s 1907 text, even though never explicitly declared with this terminology. Moreover, a hierarchy of these concepts has been recognized by the art historian Alois Riegl, who considered rubble less “picturesque” than ruins (*ein bloßer formloser Steinhaufen*), since they lack a distinct trace of their original form (Riegl 1903, 26–27).³²

The visual and theoretical frame surrounding the concept of ruins had, therefore, a long and strong tradition in Germany. At the outbreak of the war, this heritage influenced soldiers in the description of the destruction at the

³² For a historical excursus on the concepts of ruins and rubble, comparing European and Latin American traditions, see the introduction to Gordillo (2014, 1–28).

front and served the propaganda to soften German interventions on occupied territories, especially in civilian areas. Thus, the category of ruins ceased to mainly signify the nostalgic and romantic natural decline of antique architectures, but it was rather largely applied to the violent destruction of the urban environment caused by the war. During the four years of fighting, the variety of subjects representing the urban landscape on postcards followed the course of military events. The transformation of the urban landscape due to military destruction was publicized through a series of photographic postcards, such as the ones produced by the Trier Schaar & Dathe company, one of the largest German postcard printers specialized in the collotype process. The S. & D. T. WWI postcards, military censored and released for free circulation between Germany and the Western front,³³ showed intact monuments, like the cathedral of Laon (fig. 2.16), ruins of buildings, such as the observation towers in Champien (fig. 2.17), and razed to the ground towns along the front lines, for instance, the rubble of the French municipality of Bethincourt (fig. 2.18). Postcards portraying famous damaged buildings aimed at propagandistically showing German superiority over the enemy and the actual appropriation of the occupied territory: some examples are the postcards of the damaged cities of Lowen, Ypres, and Reims. Along the same lines, a postcard with the image of Château de la Croix Piot in Donchery showed a highly damaged castle in the Ardennes, which witnessed both the capitulation of Napoleon III to the King of Prussia after the Battle of Sedan in 1870 and the withdrawal of the French troops (ordered by the Commander-in-Chief Joffre) after the German bombing in 1914 (fig. 2.19). In this perspective, the writing reported on the photograph of the mutilated castle—“In 1870, Napoleon gave King Wilhelm his sword here / In 1914, headquarters of Commander-in-Chief Joffre”—taunted the enemy meanwhile affirming the appropriation of the French strategically elevated position.³⁴

World War One was not the first military event in which photographic ruins of cities (*Ruinenlandschaften*) were used as a propagandistic motif. In the Franco-Prussian War, during the siege of Strasbourg, the city was heavily bombed by Germans who intended to destroy the morale of the civilian population. Entire quarters were reduced to rubble, and after the capitulation of the city, on September 28, 1870, the urban devastation was largely

³³ S. & D. T. war postcard series reported the printer's notice: “Militärisch zensiert und zum freien Verkehr zugelassen. Kunst und Verlagsanstalt Schaar & Dathe, K. -G. a. Akt. Trier.” Each photograph was also numbered.

³⁴ My translation; original: “Jagdschloss Donchery. 1870 übergab hier Napoleon König Wilhelm seinen Degen. 1914 Sitz des Oberkommandanten Joffre.”

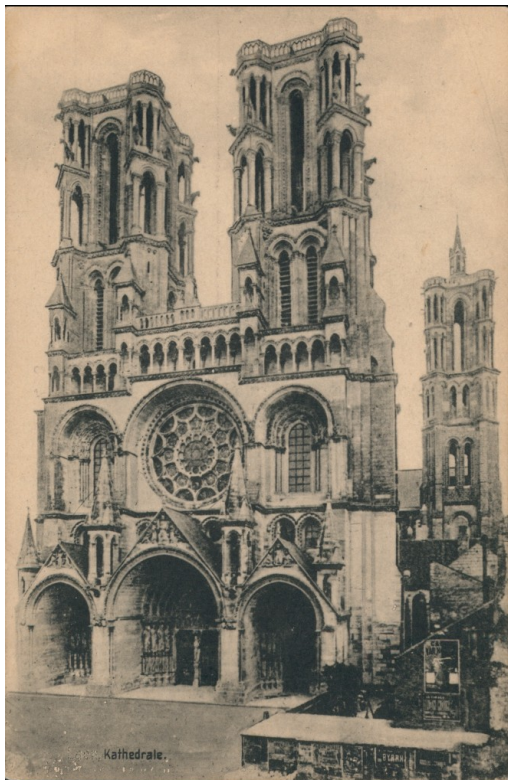


FIGURE 2.16: Cathedral of Laon (France), 1915, S. & D., T. postcard.

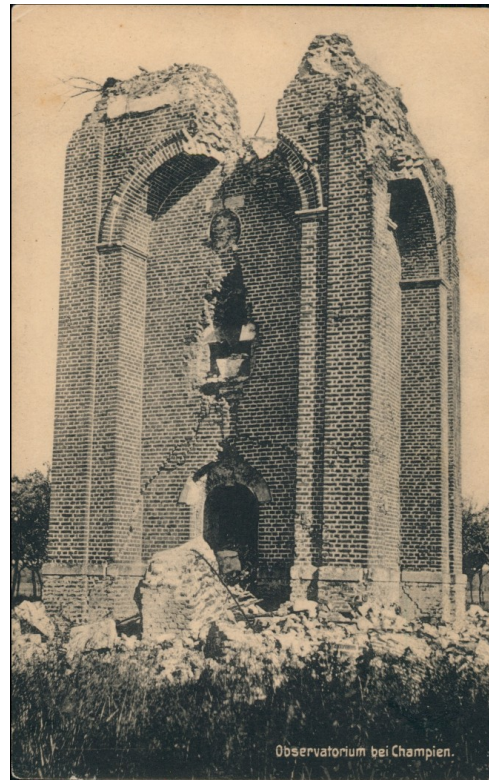


FIGURE 2.17: Observatory in Champien (France), 1915, S. & D., T. postcard.



FIGURE 2.18: Rubble of Bethincourt (France), 1915, S. & D., T. postcard.



FIGURE 2.19:
 Damaged castle (Château de la Croix Piot) in Donchery (France), 1914, S. & D., T. postcard.

documented by both French and German photographers. The German Georg Maria Eckert and Paul Sinner photographed the *Steinstrasse* (today Rue du Faubourg de Pierre) in Strasbourg, which became one of the most representative scenes used by the German propaganda at that time: it was printed on postcards and appeared at least two times as a woodcut illustration in magazines (fig. 2.20).³⁵ In a photo today attributed to the Strasbourg photographer Charles Winter but widespread in Germany by Sinner, the destruction of the district was photographed from an elevated position. The urban desolation was framed through the foreground occupied by a vigilant soldier and the background marked by the Strasbourg Cathedral. This composition served to celebrate the German victory. Through the scrutinizing gaze of the occupying soldier, the visual appropriation of the city with its “Münster” (the cathedral) was also a variation of the iconic theme of the vigilant German army surveying the disputed territory along the river Rhine (Dewitz 2006, 134).

The Franco-Prussian war photographs may be considered the precursors of

³⁵ Officially allowed to document the Franco-Prussian war, the Tübingen photographer Paul Sinner included a photo of the *Steinstrasse* in his portfolio (fig. 2.20). However, photo historians have proved that Sinner’s photograph is a copy of the original one taken by the Strasbourg photographer Charles Winter (Hesse 1989, 76–78). For an analysis of Franco-Prussian War photography, see Paul (2021).

FIGURE 2.20: Siege of Strasbourg during the Franco-Prussian War, Steinstrasse (today Rue du Faubourg de Pierre) from the Stone Gate, September 28, 1870. Photo attributed to Charles Winter.



the WWI German strategy of employing destroyed cityscapes for propagandistic reasons. However, the 1914-1918 photos of damaged cityscape were even more widely disseminated in Germany than the symbolic icons of the Franco-Prussian War. Moreover, in WWI, the coexistence of a wide variety of urban photographic depictions proposed a never-seen combination of simultaneous image types: untouched cityscapes, mutilated architectures portrayed as romantic ruins, and formless rubble.

By 1914, photographic depictions on postcards included well-defined aesthetic standards; among these, cityscapes portrayed in peacetime were the most popular motifs starting from the end of the nineteenth century. As previously mentioned, cities that soldiers encountered during the military service often constituted the subject of their postcards. This practice led the historian Gerhard Paul to highlight the tourist characters of WWI landscape photographs: “Just as one had previously photographed trips to distant countries from an ethnological perspective, war came to be visualized as well. It appeared more like a tourist adventure than a deadly conquest of foreign territories.”³⁶ Similarly, Petra Bopp describes the soldiers’ tendency to send postcards of urban landmarks (both intact and destroyed) to their families, pursuing the well-established habit of collecting photos in albums. She interprets this routine as a symptom of a “touristic gaze” that drove Germans to compare their military experience to a sort of sightseeing trip (Bopp 2009, 166–67).

Soldiers sent postcards of places that they had never personally seen before the war, and in some cases not even heard of: Riga, Baranavichy,

³⁶ My translation; original: “So wie man bislang Reisen in ferne Länder gleichsam in ethnologischer Perspektive fotografiert hatte, wurde nun auch der Krieg visualisiert. Dieser erschien eher als touristisches Abenteuer, denn als Tod bringende Eroberung fremden Terrains” (Paul 2004, 117).

Warsaw, Kronstadt (today Braşov, Romania), Niš, Sofia, Varna, etc. The novelty of living an adventure and experiencing a series of entirely new landscapes and architectures—as an “Alte Moschee in Albanien” (an old mosque in Albania)—held an enormous fascination for the soldiers. They often accompanied the pictures describing the places with the same terminology one can find in nineteenth-century popular volumes known as “Malerische Reise” (picturesque travels). On the Eastern Front, the “Terra incognita” encountered by the soldiers, which they expected to be ugly, harsh, and monotonous, was instead an unexpected discovery: “a lovely and picturesque land” (*ein hübsches und malerisches Land*) that also offered an “idyllic tranquility” (*idyllische Ruhe*) from the military duties (Kleifeld 2019, 52–53).³⁷ For some students, the war experience was even a “Studienreise” (study trip) due to this sort of exploration of territories, completely unknown in their appearance, geography, and cultural traditions. During the conflict, this excitement, propagandized by the media, has hidden war atrocities.

Eric J. Leed wrote in *No Man’s Land* that WWI war literature and memoirs were full of descriptions of the area behind the front, where bucolic landscapes and picturesque villages contrasted with the demonic devastation of technology on front lines (Leed 1979, 64–66). Soldiers spent periods of recovery and repose reflecting on their experiences while contemplating the landscape around them, which, over time, was also damaged by the bombardments of the enemy. The gradual destruction of the rear area (in German “Etappe”) was photographed and also reported in letters: “This landscape bears little traces of the war, but it looks terrible in the villages and towns along the major roads. At times, a place is spared, but many of them are just heaped rubble.”³⁸ The need

³⁷ For a comparison between WWI urban scenes and the tradition of representing cities in Germany before the conflict, see L. P. Günther (2009, 95–227).

³⁸ My translation; original; italics added: “Diese Landschaft trägt wenig *Spuren des Krieges*, aber in den Dörfern und Städten, die an den großen Straßen liegen, sieht es fürchterlich aus. Hin und wieder ist ein Ort verschont, aber gar viele sind nur noch wüste *Trümmerhaufen*” (Kleifeld 2019, 58). The escalation of destruction is a recurrent topic in German letters. In November 1915, August Jasper wrote to his wife “In ganz Douvrin sind jetzt keine zehn Häuser mehr ganz, wie schön war es hier noch voriges Frühjahr, da war fast kein Haus beschädigt. Aber nach und nach wird doch ein Dorf nach dem anderen kurz und klein geschossen.” (Wolters 2015)

to express the devastation of the urban landscape made the standard postcards distributed by publishing houses unsuitable. Consequently, soldiers began to take their own photographs, successively transforming them into hand-crafted postcards.³⁹ Personalizing postcards through pictures corresponded to soldiers' desire to show their direct and physical presence in an unconventional and disturbing landscape. Indeed, senders of postcards often appeared in the photographs in front of destroyed cityscapes (Brocks 1998, 161–63). Short sentences accompanied the pictures of devastated buildings, such as “In front of my shelter in Dixmuide, everything is destroyed” (*Vor meinem Unterstand in Dixmuide, ist alles zerstört*) and “Those who have not seen it, cannot imagine it” (*Wer es nicht geschaut, kann es sich nicht ausmalen*) (Dewitz 1989, 183; Kleifeld 2019, 58).

According to the soldiers, the consternation for such a level of devastation was only comprehensible by seeing it with one's own eyes. However, the distance between the front and the homeland could be bridged by an “objective” image: the photograph served as an eyewitness. The touristic gaze, which initially characterized the soldier's way of encountering new territories, had to face the distress for a type of destruction that also invaded the comfort zone of the rear. This level of devastation overwhelmed even the “innere Landschaft,” the deepest emotive sphere of the individual. The ultimate space of safety remained the “Heimat”⁴⁰ (homeland): “And when the eye, searching in vain for a spot that breathes life, wanders further to the left, it then encounters the vast hilly terrain, far down in the valley. What a contrast, the charming and blooming land. Far, far across the borders into Germany, vibrant colors exude life and light. I wish I could show this to someone.”⁴¹ The anxiety to protect the German soil from overpowering destruction, as soldiers experienced in France and Belgium, strengthened the patriotic feeling and became an element that

³⁹ The presence of a white border surrounding the photograph is the element that distinguishes hand-crafted postcards from the standard ones produced by well-established companies. Moreover, hand-crafted postcards often lacked the lines for the address as well as the rectangle for the stamp.

⁴⁰ For an overview of the idea of Heimat in the German culture, see Bredow and Foltin (1981), Applegate (1990), Bastian (1995), Boa and Palfreyman (2000), and Blicke (2004).

⁴¹ My translation; original: “Und wenn nun das Auge, das vergebens nach einem Flecken sucht, der Leben atmet, weiter nach links schweift, da trifft es dann auf das weite hügelige Gelände, weit unten im Tal. Welch ein Gegensatz, lachend, blühend Land. Weit, weit hin bis über die Grenzen nach Deutschland hinein lebendige Farben, die Leben und Licht ausströmen. Ich wollt, ich könnt dies so manchem zeigen” (Kleifeld 2019, 58–59). The fear that the enormous destructive power of war could reach the homeland is present in the text of various postcards such as: “Es ist doch wirklich gut, daß unsere liebe Heimat solche Bilder nicht aufweist.” (4 Karte v. 7. 6. 1916: Deutsches Historisches Museum Slg. Hey 5.6.4.)

the German propaganda repeatedly proposed.

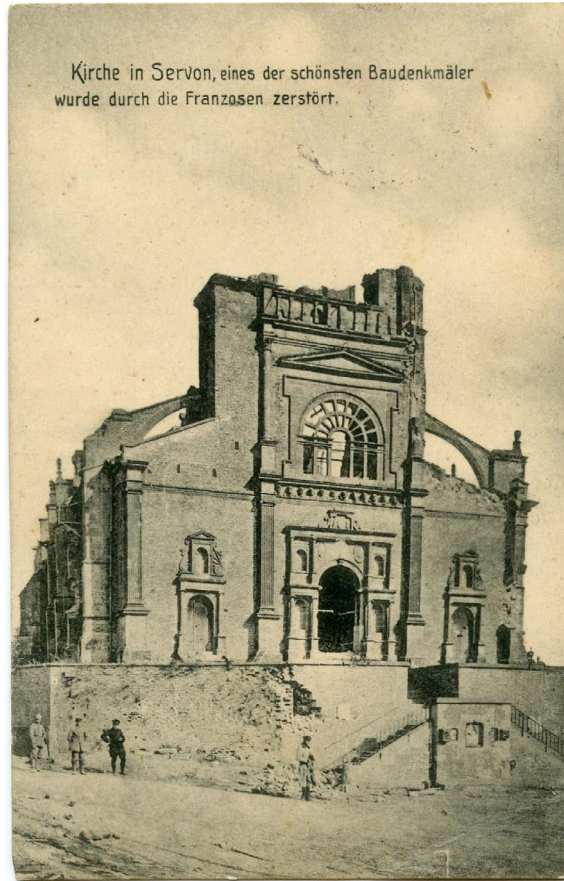
The perturbation in the texts accompanying some photographs printed on hand-crafted postcards contrasted with the aestheticization of destruction carried out by the official propaganda. Here, showing destruction served to both communicate military superiority and foster the protection of the national landscape. In this context, Gerhard Paul offers again a cause for reflection: “With the same care with which the achievements of European architecture and the beauties of nature had been captured up to that point, one now devoted himself to destroyed buildings and landscapes furrowed by bombs.”⁴² Paul notices that the old romantic canon of ruins started to be applied to buildings damaged by the artillery, including remains of monuments, churches, and villages. Even though the destruction of the buildings was violently caused by human weaponry, and not by a gradual and natural decline as Simmel and others theorized, professional photographers framed these ruins in order to resemble nineteenth-century ruins. Unlike Paul, however, the present study intends to demonstrate that WWI introduced a substantial discontinuity with previous representation canons, partially reframing the meaning of ruins. Although WWI German propaganda made extensive use of the nineteenth-century aesthetic canons in representing ruins, the extent of the devastation could not entirely suit this category and ended up being classified as “Zerstörung” (destruction). Forewarning the annihilation of WWII, this word was repeatedly reported as a caption of the photographic field postcards. When the Austrian war correspondent Colin Roß tried to describe the transformation of a French village fallen victim to the effects of an artillery barrage, he used these words:

The village was. It will never be again. Nothing stands anymore: no houses, hardly any individual walls. What is street, what is courtyard, what is former housing space? You can no longer differentiate them. Everything is uniformly debris and rubble. And the horrible thing about this rubble is: you can no longer see color. Only one tone that covers everything: a dull, deathly gray-white.⁴³

⁴² My translation; original: “Mit derselben Sorgfalt, mit der man bislang die Errungenschaften der europäischen Architektur und die Schönheiten der Natur im Bilde festgehalten hatte, widmete man sich jetzt zerstörten Gebäuden und von Bomben zerfurchten Landschaften.” (Paul 2004, 117)

⁴³ My translation; original: “Das Dorf war. Es wird nie mehr sein. Nichts steht mehr: Kein Haus, kaum noch einzelne Mauern. Was ist Straße, was Hof, was ehemaliger Wohnraum? Man kann nicht mehr unterscheiden. Alles ist gleichmäßig Schutt und Geröll. Und das Schauerliche an dieser Trümmerstätte ist: man sieht keine Farbe mehr. Nur ein Ton, der alles deckt: Ein mattes, leichenhaftes Grau-Weiß.” (*Berliner Illustrierte Zeitung* 1916j, 259)

FIGURE 2.21: Field postcard depicting a destroyed church in Servon (France) and reporting the propagandistic sentence: “Church in Servon, one of the most beautiful architectural monuments, was destroyed by the French”, S. & D., T.



As soon as the devastation of civilian areas escalated, a new type of urban landscape started to circulate in the print media, moving away from the previous aesthetic canons of cityscapes and ruins. Reaching unprecedented levels of destruction, the war left behind what Roß called “a uniform stratum of debris and rubble.” At that time, terms like “Ruinen” (ruins) and “Trümmer” (rubble) were used interchangeably both in newspaper articles and on postcards, albeit the word ruins appeared more frequently than rubble. The use of this terminology is traceable in the 1916 *Berliner Illustrierte Zeitung*’s article “Das Leben unter Trümmern,” which shows a series of photographs of damaged streets and buildings in Gorizia (Italy) after the battles between the Italian and Austro-Hungarian armies. In the text, the expression “Life under the Rubble” is conveyed in German through both “Das Leben unter Trümmern” and “das Leben unter Ruinen.” The piece seems to express an equivalent meaning between ruins and rubble, reporting sentences like “the alleyways are reduced to rubble” (*Gässchen liegen heute in Trümmern*) and “inhabitants live among the ruins” (*Einwohner heute zwischen Ruinen leben*) (*Berliner Illustrierte Zeitung* 1916b, 325–26).

Besides helping clarify the terminology, the content of this article also allows to partially show the strategy of German propaganda in using images of urban destruction. Taking the side of the Austro-Hungarian ally, this article propagandistically described the effects of the Italian artillery on the population and the architectural heritage of Gorizia. Showing the possible involvement of the enemy in destroying cities, monuments, and churches did not only serve to blame the opposing side of cruelty against defenseless civilians, but it specifically functioned as a direct response to the Allied smear campaign that presented Germans as primitive barbarians against the “Latin civilization” (fig. 2.21). After the German shelling of the Reims’ Notre-Dôme cathedral in September 1914 (against the Hague Conventions of 1907), the French denounced the deliberate destruction of the national monument and propagandized the ideas of “cultural atrocity” (*atrocité culturelle*), and “iconoclastic madness” (*folie iconoclaste*). Germany, on the contrary, accused the French of defending their troops using cultural and religious monuments as shelters, employing towers as observation points (Kiefer 1999; Gaehtgens 2018). This harsh mediatic debate culminated with the *Manifesto of the Ninety-Three (An die Kulturwelt!)* of October 4, 1914, in which prominent German scientists, scholars, and artists declared support for German military actions. Contradicting the image of Germany portrayed in the French and English press, the manifesto also affirmed the principle of preservations of monuments, “but inasmuch as in our great love for art we cannot be surpassed by any other nation, in the same degree we must decidedly refuse to buy a German defeat at the cost of saving a work of art” (Professors of Germany 1919, 285).⁴⁴ After the bombardment of Reims Cathedral in France and the burning of the Leuven University Library in Belgium (1914), the *Kunstschutz*, Germany’s wartime cultural protection policy, was established, aiming at documenting the conditions of the monuments and cultural properties on all the war fronts (Doll 2014). Far from being an objective scientific study, this photographic documentation was affected by a prejudiced and nationalist interpretation of the consequences of military events. Moreover, it operated in a context in which two complementary standpoints were popularized: destruction was the unavoidable collateral damage of fighting, and, as intellectuals of avant-garde movements had shown, regeneration could follow the conflict. Commenting the destruction of Gorizia, Filippo Tommaso Marinetti wrote in his diary: “I’ve never seen so many ruins!

⁴⁴ Cf. original: “Aber so wenig wir uns in der Liebe zur Kunst von irgend jemand übertreffen lassen, so entschieden lehnen wir es ab, die Erhaltung eines Kunstwerks mit einer deutschen Niederlage zu erkaufen.” (Ungern-Sternberg and Ungern-Sternberg 1996, 145)

Just to increase a bit my love for the new,”⁴⁵ while Alfred Döblin affirmed that art and culture are not tied to the stones of Reims, but they are alive and re-born every day: they are not objects, but actions, movements, and events.⁴⁶ The inevitable sacrifice of old buildings is further highlighted in the *BIZ* article “Verwundete Städte” that, comparing the picture of a bombed street in Verdun with a likewise destroyed panorama of Dublin after the Easter Rising, ends with the ineluctable motto “Where there is fighting, there is destruction!”⁴⁷

Recognizing the complexity of this series of propagandistic messages complicates previous studies affirming that WWI destruction was only portrayed following the standard of nineteenth-century touristic ruins. The *Kriegslandschaft* (War Landscape), as it was already called during the war, did not spare the urban landscape that was represented in a variety of ways, only partially corresponding to previous pictorial or photographic canons. Analyzing the motifs presented on WWI postcards, it is possible to distinguish at least three types of urban landscapes: intact, ruined, and reduced to rubble. Moreover, these subjects were used for different reasons and interpreted by various audiences. Soldiers used hand-crafted photographic postcards of urban scenes to communicate emotions to their families. State propaganda employed photos of ruins to declare the German success in battle and the appropriation of enemy positions, fostering military morale in keeping destruction outside the German borders and blaming the enemies for devastating the urban landscape not less than the German army. Finally, most of the intellectuals legitimized urban destruction as inevitable collateral damage of war. As a result of an industrialized conflict, WWI urban destruction proposed, however, a new image of devastation that will be the oppressive memory of the entire twentieth century (Ward 2004). Far from being a natural decline, like the romantic ruins, this man-made destruction razed to the ground, leaving no shape, no past, no memory.

⁴⁵ My translation; original piece written on March 8, 1917 in *Taccuini*: “Non ho mai visto tante rovine! Tanto per aumentare un poco il mio amore per il nuovo.”

⁴⁶ Cf. “Die Kunst und die Kultur ist nicht gebunden an die Steinmassen in Reims oder die Farbmischungen anderswo, sondern sie lebt. Sie zeigt sich stündlich und täglich. Sie erneuert sich, sie existiert nicht, ohne jeden Tag wiedergeboren zu werden. Kultur ist kein Gegenstand, sondern eine Handlung, eine Bewegung, ein Geschehen.” (Döblin 1914, 21)

⁴⁷ Cf. “Allmählich sehen auch unsere Feinde ein, daß die Zerstörung von Städten im Kriegsgebiet eine unvermeidliche Folge der kriegerischen Ereignisse ist. Wenigsten verstummt ihr früheres Gezeter über die ‚Barbarei‘ immer mehr, und an seine Stelle tritt die Erkenntnis der kriegerischen Notwendigkeiten. Wir zerstören nicht nur Verdun, weil wir es müssen, sondern die Franzosen machen es mit ihren eigenen, in unsere Linien gelegenen Städten nicht anders, freilich oft sinnlos. [...] Wo gekämpft wird, da wird eben vernichtet!” (*Berliner Illustrierte Zeitung* 1916f, 323)

2.3 From Landscape to No Man's Land

Among the German photographic volumes that gained popularity in the second decade of the twentieth century, it is noteworthy the eight-book series *Leuchtende Stunden - Eine Reihe schöner Bücher*, launched by the Berlin-Charlottenburg publishing company Vita Deutsches Verlagshaus in 1911.⁴⁸ Richly illustrated, these volumes addressed the topic of German natural and cultural heritage, and they were called “beautiful books” because of their refined layout that alternated texts and images. Some distinct features that made these publications particularly beloved by the public comprised full-page photographs printed on glossy paper, miniatures contained in the first capital letter of every chapter, dust jackets showing artists' pictorial images, and even rare color photographs positioned on the first left page next to the book title (fig. 2.22). This design served the primary goal of these volumes, which, as the back covers reminded, consisted in “beautify” the readers-viewers' lives and strengthen the citizens' love for nature and art by reaching the most extensive strata of society.⁴⁹

The curator of the series was Franz Goerke: publisher, photographer, co-founder of the Freie Photographische Vereinigung (Free Photographical Association) in Berlin, and director of the scientific society Urania. During his entire career, Goerke advocated the employment of photography in both scientific and humanistic studies, particularly stressing the role of photographs as teaching aids to stimulate and educate the population, fostering a scientific and historical public consciousness. His goals perfectly committed to the cause of Wilhelm Bölsche, who was an influential German author and early promoter of nature conservation. When in 1915, in the midst of the world conflict, the two intellectuals published the eighth and last volume of the *Reihe schöner Bücher* under the title *Die deutsche Landschaft in Vergangenheit und Gegenwart*

⁴⁸ The *Leuchtende Stunden - Reihe schöner Bücher* series comprehended: Johannes Trojan: *Unsere deutschen Wälder* (1911), Georg Hermann: *Aus guter alter Zeit* (1911), Artur Fürst: *Das Reich der Kraft* (1912), Walter Bloem: *An heimischen Ufern* (1912), Georg Engel: *Auf hoher See* (1913), Ernst Haeckel: *Die Natur als Künstlerin* (1913), Rudolf Presber: *Geweihte Stätten* (1914), Wilhelm Bölsche: *Die deutsche Landschaft in Vergangenheit und Gegenwart* (1915).

⁴⁹ Parts of the original text on the back covers of the *Reihe schöner Bücher* reported: “Uns hinauszuheben aus dem Alltag, abseits von der Haft und dem Unfrieden des Schaffens und Sorgens, ist der Zweck dieser »Reihe schöner Bücher«. [...] sie wenden sich an keine Berufsklasse, an keinen Stand: — in die breiten Schichten unseres Volkes wollen sie dringen. [...] gute Bücher haben ja, wie gute Freunde, die Aufgabe, unser Leben zu vertiefen, es zu verschönern [...]” (Bölsche 1915)

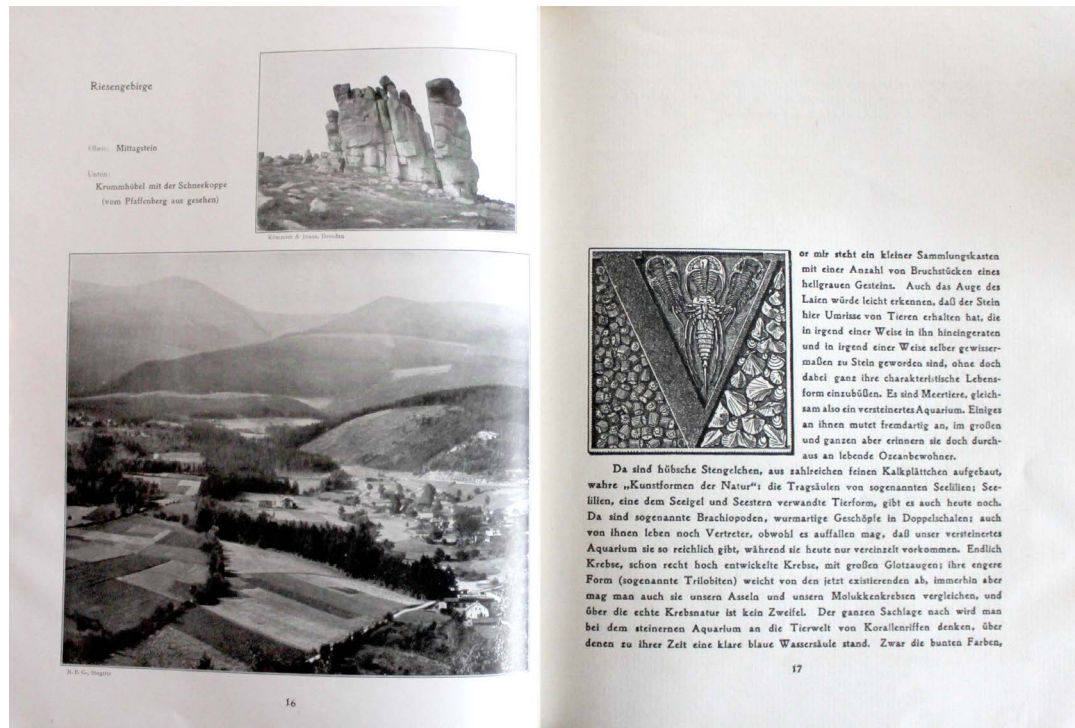


FIGURE 2.22: Design of the book *Die deutsche Landschaft in Vergangenheit und Gegenwart* (1915), which was part of the series *Leuchtende Stunden - Eine Reihe schöner Bücher*.

(German landscape in the past and in the present), the topics of landscape conservation, national identity, and learning through photography ultimately merged.

In this book, the geologic and geographic formation of the national landscape was described by Bölsche's essay and visually presented through scenic photographs provided by various German publishing houses and photographic associations, such as the Neue Photographische Gesellschaft (Berlin-Steglitz). Moreover, a conspicuous part of the photographic material was also produced by scientific experts, like the geologist Felix Wahnschaffe, and professional and amateur photographers, e.g., Fritz Mielert and Franz Goerke himself. The result was a volume that aimed at transferring the scientific knowledge of experts to laypeople, specifically describing the geologic features of the German territory using mixed styles. Bölsche, for instance, explained geologic processes, time scales, and types of rocks (granite, gneiss, basalt, etc.) through a simplified scientific language, while the captions of pictures also included poems (e.g., those of Ernst von Wolzogen). The introduction written by Goerke maintained a nationalistic tone, which also referred to the ongoing war. This introductory part accompanied the reader into the visual experience of the German landscape formation by evoking some of the geographical places that were explored in the book: the "majestically sublime" (*majestätisch erhaben*)

Alps, the “charming magic” (*reizvoller Zauber*) of the plain, the “mellow and gracious” (*lieblich und anmutig*) Mittelgebirge, and the “serious and solemn” (*ernst und feierlich*) Nordic beach (Bölsche 1915, 5). The book’s ambition of monumentalizing the German landscape, to preserve its magnificence as a national property, drew an explicit comparison between the “German fatherland” and the American Yellowstone National Park. The American experience had taught that photography—e.g., William Henry Jackson’s photos taken during the geologic survey in 1871—could have a beneficial role in leading to conservation actions (Bossen 1981; Snyder 1994). Following the same principle, but adapting it to the reduced European scale, the photographs selected in the *Die deutsche Landschaft in Vergangenheit und Gegenwart* morphologically described German territory while romanticizing the landscape. Most of the photographs collected in the book aimed at provoking in the readers picturesque pleasure through panoramic views of valleys, mountain ranges, rivers, and fertile plains, which also generally showed accessible routes for visitors. Usually taken from elevated positions in order to describe the natural monuments in all their grandeur, the pictures of rock formations—such of the Elbe Sandstone Mountains, the mountain range of the Sudetes, and the cliffs of Heligoland—were particularly spectacular (fig. 2.23-2.24). Moreover, the harmonic relationship between Germans and their nation’s natural landscape was recorded in the banks of the river Rhein and its tributaries Nahe and Neckar, a constant visual feature of German landscape photography until the first half of the twentieth century.

Even though the volume also contained some close-ups showing the shape of boulders, macro photographs of rock layers (supplied by geologists and natural history museums), and even underground views of workers in mines, scenic photography visually prevailed over the scientific character of the publication (fig. 2.25-2.26). This unbalanced combination exactly responded to the editors’ goals of creating appealing content to spread the love for the German landscape among the population, which was actually love for the fatherland. The protection of the territory was not to be intended as an ecological act. Indeed, the photographs portraying industrial sites, like mining in the Ruhrgebiet or in the Upper Harz region, were not included for disapproving the capitalistic model. On the contrary, they showed that the German underground, excavated by the mining industry, could bring to light important traces of the geologic history. The book succeeded in describing how different landscapes had originated from ancient geological processes, but it omitted the human

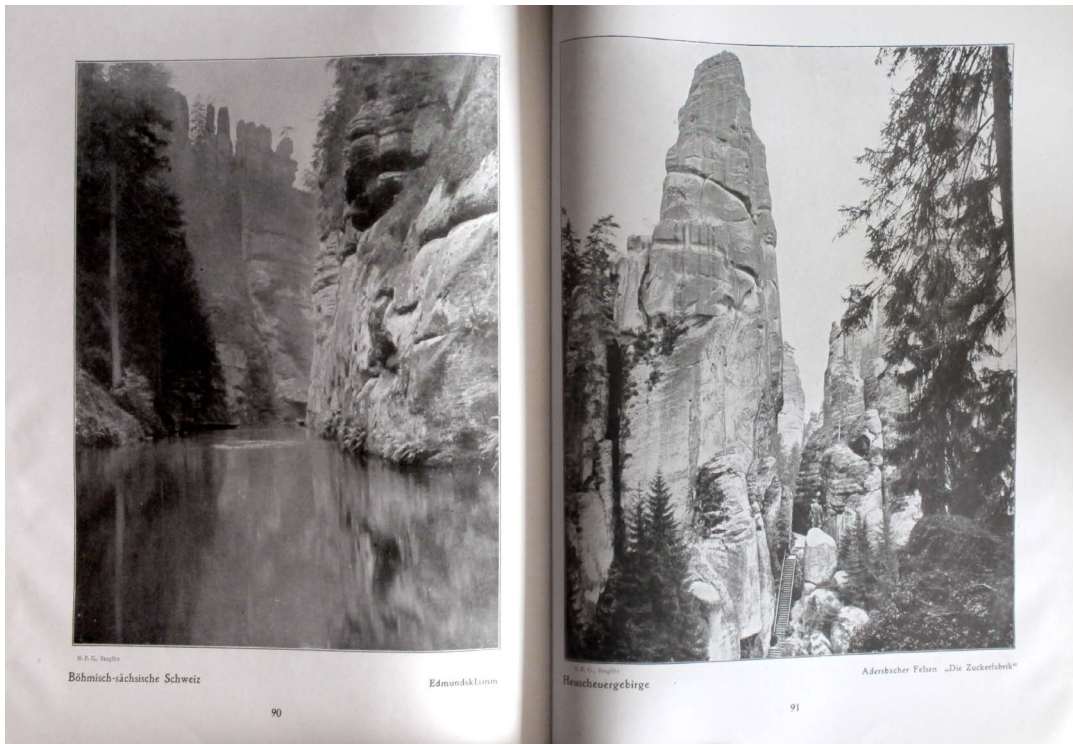


FIGURE 2.23: Kamenice Gorge in the Bohemian Switzerland and part of the Sudetes (Bölsche 1915, 90–91).

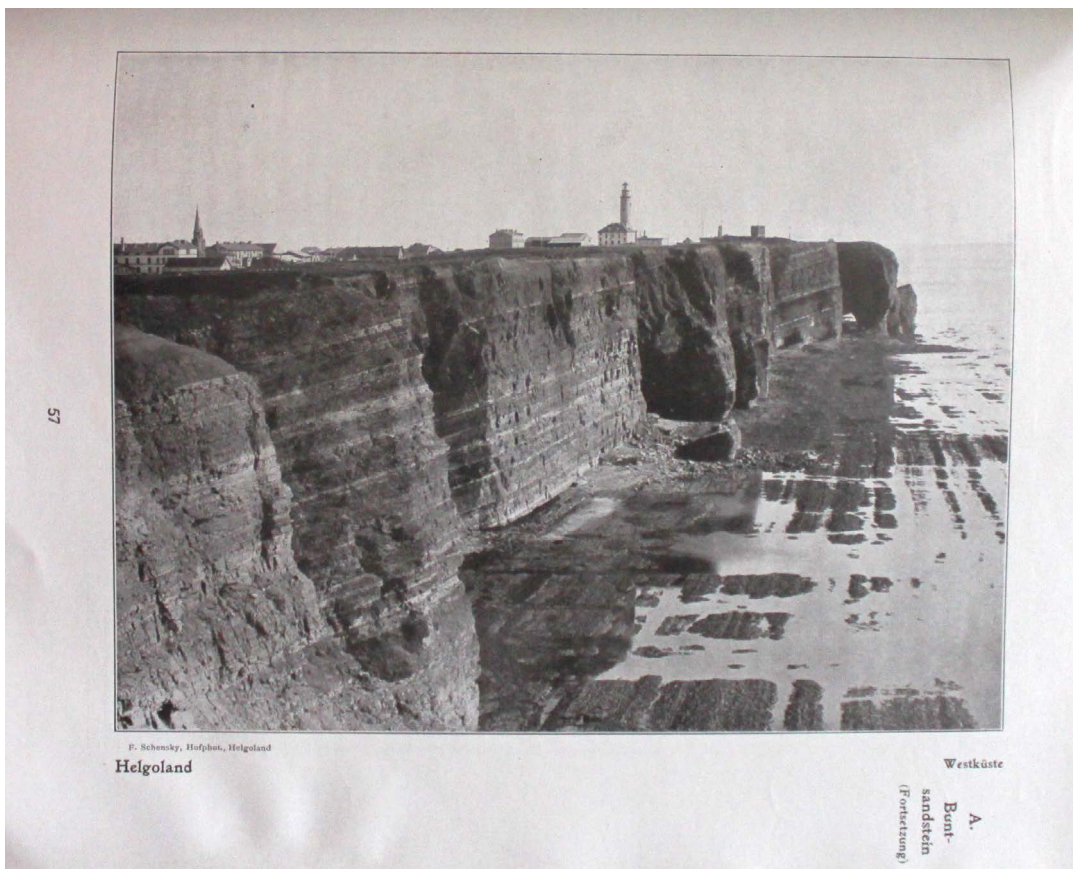


FIGURE 2.24: Helgoland archipelago in the North Sea (Bölsche 1915, 57).

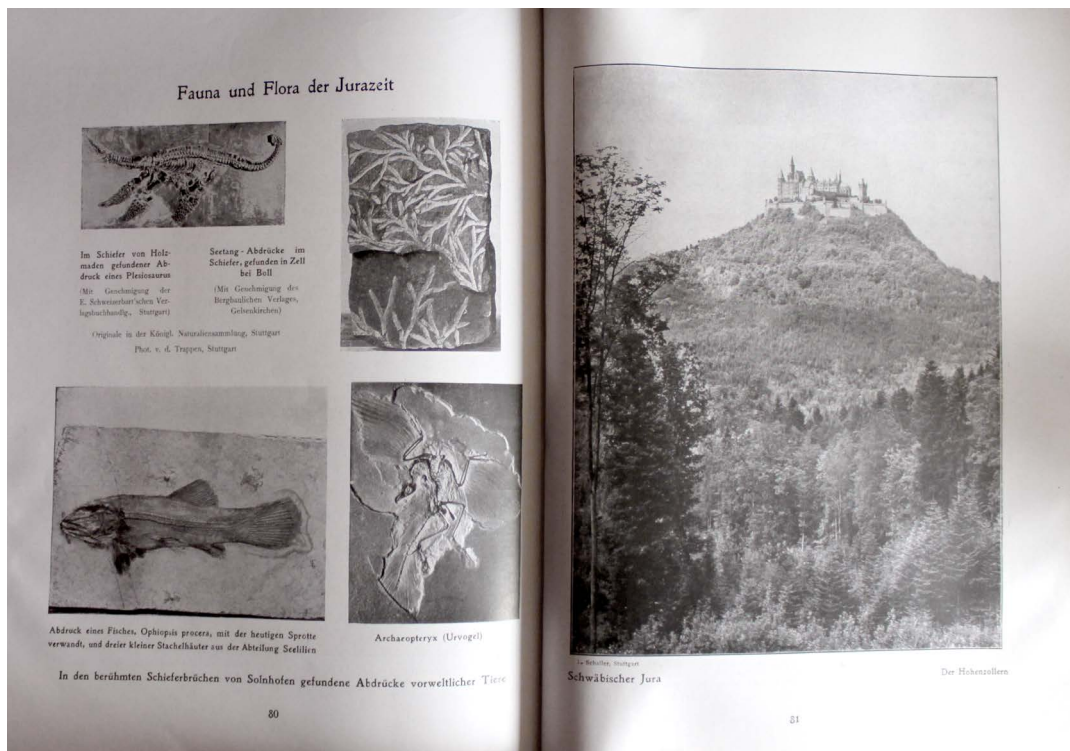


FIGURE 2.25: A scenic view of the Hohenzollern Castle in the Swabian Jura (right) counterbalances the scientific character of the left page representing flora and fauna in the Jurassic (Bölsche 1915, 80–81).

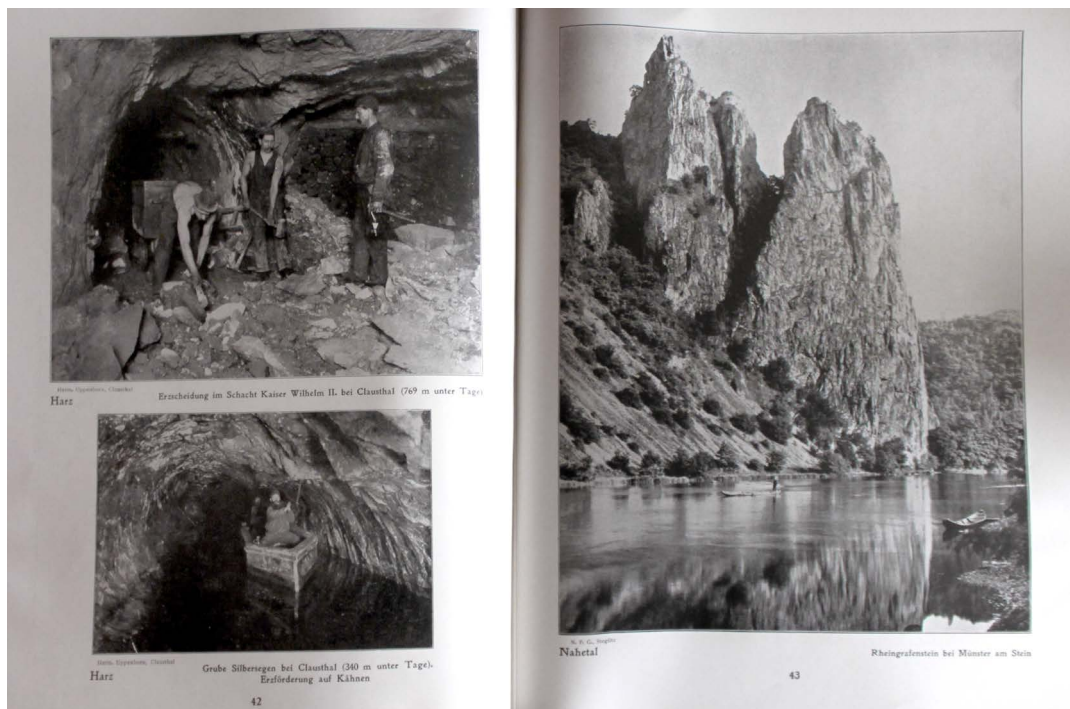


FIGURE 2.26: A scenic view of the Rheingrafenstein (right) counterbalances the documentary character of the left page representing mining in the Upper Harz region (Bölsche 1915, 42–43).

impact in shaping the territory. Thus, the introduction was ambiguous in affirming: “Among all the problems that must concern a thinking being, hardly one is of greater interest than the question of the fate of the earth, which has also become the fate of humankind, of the growth and decay of its mountains and valleys, of its rural areas and seas.”⁵⁰ This auspice was partly disregarded, since the volume mainly focused on “leaf[ing] through the great picture book of the German land,” investigating “where every stone and every grain of sand finally moves back in time to the place it was originally created.”⁵¹ The book was more a celebration of the German territory than a critique of the causes of the supposed decline of landscape features. Being published in 1915, the volume could not be exempt from praising the enormous sacrifice of brave soldiers in defending the homeland from the enemy. The ultimate function of these photographed landscapes was all contained in the sentence: “Every picture tells you: this is your homeland, this is your fatherland, you have to protect it against your enemies and envious people around you, your sons are now deploying their good and blood to preserve it for you.”⁵²

The photographic volume *Die deutsche Landschaft in Vergangenheit und Gegenwart* represented an emotive digression from the disruptive experience of war. The commemoration of the German national landscape (realized through a nationalistic tone and picturesque photographs) corresponded to a widespread conception of landscape photography during the war, which was exemplified in the 1915 *Photographische Rundschau*. Photography could be a “resting pole” after the “the tremendous pressure of the war experience” (Warstat 1915, 221; Nübel 2014, 230). It would be misleading, however, to interpret WWI landscape photography exclusively in response to the population’s need to find an emotive restful zone in the destructiveness of warfare.

⁵⁰ My translation; original: “Von allen Problemen, die einen jeden denkenden Menschen beschäftigen müssen, ist kaum eins von höherem Interesse, als die Frage nach den Schicksalen der Erde, die ja auch das Schicksal der Menschengeschlechter geworden sind, nach dem Werden und Vergehen ihrer Berge und Täler, ihrer Länder und Meere.” (Bölsche 1915, 5)

⁵¹ See the last page of the original text written by Wilhelm Bölsche: “Dem Eingeweihten aber darf es zur rechten Stunde doch gegeben sein, auch aus jener anderen Schau das große Bilderbuch des deutschen Landes zu durchblättern. Dämmernd hinter der einen Landschaft mögen ihm die anderen wieder erscheinen, — eine wunderbare Schöpfungsperspektive, wo jeder Stein und jedes Sandkörnlein zuletzt wieder zeitlich an die Stelle rückt, die es ursprünglich geschaffen. Wie dem Kinde im Märchen die Wand der Wunderhöhle, so wird ihm der Fels zum durchsichtigen Krystall. In die neu vereinigten Gründe sieht er die Sonne der Urwelt wieder leuchten . . .” (ibid., 72)

⁵² My translation; original: “Ein jedes Bild sagt Dir: das ist Deine Heimat, das ist Dein Vaterland, das hast Du zu schützen gegen Deine Feinde und Neider ringsum, dafür setzen Deine Söhne jetzt Gut und Blut ein, um es Dir zu erhalten.” (ibid., 5)

Landscape photography was also the documentary genre less censored, therefore landscapes in the aftermaths of battles were the first photographs to circulate in the illustrated press. The devastated landscape of the Western Front, repeatedly represented in the media, was counterbalanced by the untouched national landscape. These two poles of landscape photography, destroyed foreign landscape vs intact homeland, served to incite soldiers and the public opinion to defend the German soil from the catastrophe. After having shown the quiet atmospheres characterizing the representations of the German land, which circulated until the first years of war, the rest of this section analyzes how the most brutally devastated territories on the Western Front have been presented to the German audience.

On April 23, 1916, the *Berliner Illustrirte Zeitung* dedicated the first reportage to the battle of Verdun, two months after the beginning of one of the longest and most destructive fights on the Western Front. This delay was caused by the initial reluctance of the German General Staff to distribute visual contents to the press. However, at the end of April, some photographs started to circulate under the title *Von den Kämpfen an der Westfront* (About the fighting on the Western Front). Together with the close-ups portraying captured French weapons, the reportage was visually dominated by a half-page photograph of a destroyed forest (fig. 2.27). The caption did not state any geographical information, which would have served to locate the forest on the Western Front map. Even though the article mentioned the names of a couple of forests around which the conflict was evolving (Caillette-Wald, Wald von Avocourt, Rabenwald), the report lacked an explicit link between photo and text. Moreover, neither the date of the snapshot nor the photographer was reported. The only sentence that integrated the photographed scene was a quotation from the art historian Max Osborn, who was war correspondent for the *Vossische Zeitung* in WWI: "So this used to be a forest! Now it's nothing more than a tattered and trampled piece of northern France on which the grenades howl!"⁵³ This nearly poetic verse automatically transformed the picture into a symbol of the WWI industrial and technological military power able to annihilate both nature and human beings.

The same snapshot, portrayed in a wider panoramic format, also appeared in the fortnightly magazine *Die große Zeit 1914-1915 - Illustrierte*

⁵³ My translation; original: "Dies also war früher ein Wald! Jetzt ist es nicht mehr als ein zeretztes und zerstampftes Stück Nordfrankreichs, über das die Granaten heulen!" (*Berliner Illustrirte Zeitung* 1916h, 243)



FIGURE 2.27: Forest destroyed during the battle of Verdun (*Berliner Illustrierte Zeitung* 1916h, 243).

Kriegsgeschichte (fig. 2.28). Once again, the photo caption just said: “A forest after artillery barrage” (*Die Große Zeit: Illustrierte Kriegsgeschichte* 1915–18, 2:211).

Forests had always been a powerful metaphor for the German audience, since Albrecht Altdorfer painted his sylvan landscapes. They were considered part of the German character and a founding element of the national identity (Nübel 2014, 331–34). Thus, WWI destroyed forests became a relevant photographic motif able to provoke emotive reactions in the German public. The circulation of this trope in the WWI German press has been rarely studied by secondary literature, compared to Allies’ photographs taken in the Flanders Fields (e.g., in the Battle of Passchendaele). Nevertheless, devastated forests were a recurring presence in German illustrated magazines.

Their specificity as a new war subject had been recognized since August 1916. At the beginning of that month, for the first time, the *BIZ* referred to the



Ein Wald nach dem Trommelfeuer

derjenigen des Panzerwerks Casa Matti auf dem Tiroler Kriegsschauplatz. Daß französische Gegenangriffe der Besignahme folgten, war nach dem Gange der bisherigen Kriegereignisse selbstverständlich. Am 8. und 9. Juni tobten sich diese südwestlich Douaumont im Chapitrewald und auf dem sogenannten Fuminrücken aus. Die deutsche Front schob sich aber am 12. Juni bei Douaumont weiter vorwärts, um so wirksamer, als am 13. westlich und südlich der Thiaumont-Ferme feindliche Stellungen erobert wurden und am 15. auf dem blutüberströmten Kampfgebiet des „Toten Mannes“ die Franzosen neue schwere Verluste erlitten. Am 22. Juni scheiterten drei französische Angriffe gegen unsere westlich der Feste Vaux genommenen Gräben. Am 23. Juni stürmten bayerische Regimenter das Werk Thiaumont rechts der Maas den größten Teil des Dorfes Fleury und einen Teil des südlichen Vorgeländes von Vaux. Es folgten am 24. und 25. Juni harte französische Infanterieangriffe gegen die neuen deutschen Stellungen sowie gegen die auf dem Hügelrücken „Kalte Erde“ bereits gewonnenen. Diese, wiederholt, zeitigten am 27. Juni ganz außerordentlich schwere gegnerische Verluste, ebenso besonders noch am 30. Juni.

Dieser Gefechtsalmanach von etwa anderthalb Monaten zeigt zur Genüge, daß kein Tag ohne schweren Kampf verging. Dieser erstreckte sich aber nicht allein auf die Nord- und Nordostfront von Verdun, sondern auch auf das östliche Kampfgebiet der Cotes Lorraines. Dort wütete auch der Minentampf. Künftige Schlachtfeldbeschaauer werden sich vergeblid nach der berühmten Combres-Höhe umschauen, die im ersten Kriegsjahr so oft der Gegenstand des Kampfes war. Ihr Gipfelzug ist in der Ausdehnung von Hunderten von Metern verschunden, abgeprengt. Deutsche Minen, die mit Hunderten von Zentnern Sprengstoff geladen waren, stießen in unterirdischer Gnomenarbeit bis weit unter die feindliche Befestigungslinie. Die Franzosen versuchten das gleiche. Die Deutschen waren schneller. Die Gipfel der Combres-Höhe zeigen jetzt eine Reihenfolge unheimlicher Krater. Daß dieser dauernde halb Schlachten-, halb Festungskrieg auch seine Wechselfälle zeitigte, wird niemand wundernehmen. Die Franzosen haben eine eigene Art, auch dann noch Häuser, Keller, Schanzen festzuhalten, wenn sie vom Feinde umpflügt und überflutet sind. Ein überzeugendes Beispiel ist der sieben tägige Verbleib der Besatzung der Feste Douaumont in den Kellern und Poternen, auch als die Deutschen oberirdisch im vollen Besitz des Waffenplatzes waren. Nur der Wassermangel lockte schließlich die Franzosen an das Licht. Nicht selten haben unsere Stürmer Rückenfeuer aus Stellungen, Unterständen erhalten, die sie vom Feinde verlassen glaubten. Solches Rückenfeuer lähmt wie nichts anderes die Energie des Angriffs. Bei einem dieser letzteren scheiterte der Erfolg dadurch, daß einige französische Maschinengewehre sich unter der Leitung eines opferfreudigen Stabsoffiziers verborgen gehalten hatten und nun den deutschen Sturmfronten in den Rücken schossen. Weniger die Verluste als die eingetretene Verwirrung, das Ungewisse der Lage beeinträchtigen die Moral der Truppe und sind am Mißlingen schuld. Auf deutscher Seite sind aber die Beispiele augenblicklichen Mißerfolges zu zählen. Im

ganzen und großen schob sich die deutsche Angriffsfront unaufhaltsam vor wie schwerflüssige Lava. Sie erreichte in der Monatswende vom Juni und Juli etwa die Linie Wald von Malancourt, Höhe 304, Chattancourt (westlich der Maas), Bacherauville, Thiaumont, Fleury, Damloup (östlich der Maas) und von da auf dem Ostrande der Cotes Lorraines die Dörfer Eiz, Hautiomont, Fresnes, Champlon.

Wir können die Fortsetzung der Beschreibung der Verduner Kämpfe im Juli und August um so eher abbrechen, als Ereignisse eintreten, die die Aufmerksamkeit von diesem Kampfgebiet auf ein benachbartes übertragen, wo aller Wahrscheinlichkeit nach eine ausschlaggebende Entscheidung für die Endentwicklung des ganzen Krieges ausgekämpft worden ist und noch ausgekämpft wird. Dieses neue und überraschende Moment in dem Verlauf des Krieges bestand in dem Beginn der großen franco-englischen Offensive, die sich seit Beginn des Juli beiderseits der Somme und des Ancre-Baches entwickelte. Sie geschah englischerseits mit einem Massenaufgebot an Kampftruppen, das man bei Kriegsbeginn für unmöglich gehalten hätte. Damals betrug die verfügbare Expeditionsarmee für das Ausland einschließlich der Hilfstruppen aus den Dominionen — Kanada, Australien, Südafrika, Indien — etwa 250 000 Mann. Jetzt wollen die Engländer mit einem Millionenheer in den neuen Kampf gezogen sein, das aus der heimatlichen Erde wie Antäus täglich neue Kraft schöpft.

2. Die Schlacht an der Somme

Als der Stellungskrieg an der deutschen Westfront um die Jahreswende 1915/16 fünfviertel Jahre ange dauert hatte und die großen Durchbruchversuche der westmächtlichen Armeen in der Winter Schlacht der Champagne (Februar 1915), sodann in den großen Sommer- und Herbstschlachten 1915 in Flandern und im Artois gescheitert waren, überlegten die feindlichen Heeresleitungen, wie der Krieg trotzdem für sie in günstige Bahnen gelenkt und zu ihren Gunsten entschieden werden könnte. Sie verfielen auf eine allgemeine, von allen Seiten gleichzeitig einsetzende Offensive mit ungeheuren Nachtmitteln. Die geschwähzige Presse der Entente plauderte aus, daß der 25. April 1916 als zeitlicher Beginn des riesenhaften Unternehmens gelten sollte. Die deutsche Heeresleitung betrachtete von jeher den Hieb als die beste Parade. Der mit Kraft ausgeschlagene Hieb war diesmal der Angriff auf Verdun in der zweiten Hälfte des Februar 1916. Den Gegnern wurde dadurch das Konzept verdorben, indem sie plötzlich die Rollen tauschen mußten. Aus Angreifern wurden sie Angegriffene. Bei Verdun in die Enge getrieben, schrien die Franzosen um Hilfe. Die Russen suchten sie ihnen zu bringen durch ihre großzügige Märzoffensive — in Kurland unter General Kuropatkin, in Galizien unter General Kobanow. Es ist bekannt, daß diese Versuche mit einem Verlust von reichlich einer Viertelmillion Menschen scheiterten. Rußland mußte monatelang Atem schöpfen, ehe es seine Entlastungs offensive im Juni 1916 wiederholen konnte. Die Italiener hatten mit sich selbst genug zu tun, um Hilfe leisten zu können.

FIGURE 2.28: A forest after artillery barrage (*Die Große Zeit: Illustrierte Kriegsgeschichte* 1915–18, 2:211).



Der Caillette-Wald!
Charakteristische Photographie, die die oft beschriebene völlige Niederlegung der Waldgebiete bei Verdun durch das Artilleriefeuer vor den Sturmangriffen zeigt.

FIGURE 2.29: Caillette forest destroyed by artillery fire (*Berliner Illustrirte Zeitung* 1916d, 474).

Caillette forest destroyed by the artillery fire in an area near Verdun as a “typical photograph” (*Charakteristische Photographie*).⁵⁴ The main caption ironically reported “Caillette = Forest!”: a statement that evidently contrasted with the visual desolation of the photographed landscape, in which only stumps of trees could be distinguished on the vast barren land (fig. 2.29). Following this last example, forests turned into a symbolic visual space that served to typify the condition of nature and soldiers on the Western Front.⁵⁵ The publication of these images ultimately reminded the German population about the soldiers’ sacrifice to keep the war outside the national territory. German propaganda proposed the theme of the destruction of French forests by an inhuman technological power as the inevitable consequence of the supposed German military advance leading to a triumphant victory.

The peculiarity of this type of pictures concerned the subject (the destroyed forest) and also the composition of the scene (how the forest was portrayed). Framed from the level of the terrain, the lower part of these photographs was occupied by broken soil and organic debris, among which only fallen logs were recognizable. The upper section of the photographs showed instead a couple of tree trunks spared from the artillery fire. They were the only elements indicating that the substantial mass of shapeless vegetation had actually been a forest prior to the military attack. The sky was of secondary importance compared to the terrain, which was the portion of the picture that mostly caught the eye. The frontal position of the photographer in relation to the terrain determined the perfectly horizontal line that divides the soil from the sky (cf. fig. 2.27).

⁵⁴ See the original caption: “Der Caillette = Wald! Charakteristische Photographie, die die oft beschriebene völlige Niederlegung der Waldgebiete bei Verdun durch das Artilleriefeuer vor den Sturmangriffen zeigt.” (*Berliner Illustrirte Zeitung* 1916d, 474)

⁵⁵ For a comprehensive study on the history of the evolving conceptualizations of place and space, see Casey (2013).

Interestingly, this line was not the horizon, namely the farthest place that the viewer can see: the photographer's gaze was obstructed by the earth, which had been perforated, blown up, and turned inside out and upside down. As a result of this transformation of the ground, the point of view of the photographer collapsed at the level of the *terrain-soil-ground*. Consequently, the distinction between foreground and background disappeared, since the depth of field was blocked by the barrier of the earth. The flatness of the scene was not exclusively determined by the plainness of the compositional elements, but it was also highlighted by the absence of diagonal lines. The composition balanced uniquely on verticals (spared trees) and the horizontals (terrain with fallen logs), but it lacked a vanishing point from which to gain perspective.

The WWI disfigured forest was often part of the No Man's Land: the strip of land between two enemy trench systems heavily defended by all sorts of weapons. In this context, the perspective of the soldier-photographer was extremely limited. Indeed, the photographs testified not only to the destruction of the landscape but also to a new condition of the viewer. According to an eyewitness, trench warfare completely transformed the visual perception of the soldiers.

Was it Ruskin who said that the upper and more glorious half of Nature's pageant goes unseen by the majority of people? [...] Well, the trenches have altered that. Shutting off the landscape, they compel us to observe the sky; and when it is a canopy of blue flecked with white clouds [...], and when the earth below is a shell-stricken waste, one looks up with delight, recalling perhaps the days when, as a small boy, one lay on the garden lawn at home counting the clouds as they passed. (Mark VII 1928, 72)

This memory written by the British writer Max Plowman highlights that trench warfare prevented soldiers from seeing the landscape. In this context, Max Osborn's words acquire a new meaning: "So this used to be a *forest*! Now it's nothing more than a tattered and trampled *piece* of northern France on which the grenades howl!" (*Berliner Illustrirte Zeitung* 1916h, italics added). The forest, as a natural entity made of plants and trees, was totally transformed by military technology, and Osborn indicated this transfiguration using the term "tattered and trampled *piece*" (zerfetztes und zerstampftes Stück). The unity of the forest, which could be normally perceived and photographed by an all-embracing gaze as a harmonic, united, and homogeneous space, did not exist anymore. Instead, it became a pounded *piece* of land, which soldiers in the trench could only observe from a limited and confined position through an

extremely narrow viewing angle. Similarly, Kurt Lewin⁵⁶ described the perception and phenomenology of the WWI battlefield. Before becoming a pioneer of environmental psychology, Lewin took service as a German field artilleryman on the Eastern Front. In 1917, while recovering from war wounds, he wrote *Kriegslandschaft* (The Landscape of War), where he investigated the perception of the landscape from the point of view of the soldiers in the trenches (from the rear up to the front lines). His descriptions perfectly correspond to the visual features one can find in the photographs of the No Man's Land taken from the ground, especially when comparing them to the landscape compositions in prewar photography or pictures of the homeland landscapes.⁵⁷

The [peacetime] landscape is round, without front or behind. If one approaches the Front zone, however, the expansion into infinity no longer applies unconditionally. The area seems to come to an end somewhere in the direction of the Front; the landscape is bounded. [...] Up "ahead" the area seems to have an end, which is followed by a "nothingness." (Lewin 2009, 201–2)⁵⁸

The soldiers' obligation of protecting themselves inside the ground and the consequent impossibility of giving an overall look at the landscape-battlefield can also be noticed in the photographs, in which the field of view is significantly limited. The frontal position from which the scene is photographed, perfectly perpendicular to the enemy lines, also *corresponds* to the contrasting dispositions of the two sides in combat.

[...] the directedness of the landscape becomes more pronounced: the area presents itself as a zone running roughly parallel to the boundary.
[...] In a landscape defined by its boundary and directedness, the field

⁵⁶ Kurt Lewin's work was originally involved with the Gestalt psychology in the 1920s. After emigrating to the United States, he pioneered environmental psychology.

⁵⁷ Lewin distinguished between "war landscapes" and "peace landscapes," as two mental categories that WWI soldiers introjected. In the last decade, a new approach to global environmental history has highlighted that, in practice, this distinction vanished in WWI (T. Keller 2016). However, from a photographic point of view, these two tendencies can easily be noticed and help to interpret the two essential poles of landscape photography during warfare.

⁵⁸ See the original passage: "[...] das ist wesentlich für die Friedenslandschaft - [...] *Landschaft ist rund, ohne vorne und hinten*. Nähert man sich jedoch der Frontzone, so gilt die Ausdehnung ins Unendliche nicht mehr unbedingt. Nach der Frontseite hin scheint die Gegend irgendwo aufzuhören; die Landschaft ist *begrenzt*. [...] Die Gegend scheint da ,vorne' ein Ende zu haben, dem ein ,Nichts' folgt." (Lewin 1917, 441)

of combat—i.e., the “position”—generally stands out as a special part of the landscape during combat. (ibid., 202, 204)⁵⁹

This frontality, which Lewin called “directedness,” is defined by the facing trenches, and it is also visible in the so-called military photographic panoramas taken by survey units (known in German as *Rundbilder* or *Rundblickaufnahmen*; see also section 3.2). These panoramas were composed of different single pictures and showed the territory controlled by the enemy in front of German positions. However, in this case, the powerful lenses of the military cameras allowed to magnify the view of the terrain taking pictures from a safe elevated point of view, far from the front lines. This prosthetic overview on the battlefield was instead precluded to the infantrymen who could experience the destroyed war landscape, and the dangers entailed in it, only by means of contained and bordered visual portions. Kurt Lewin was able to analyze the military landscape-battlefield since, as an artillery officer, he could move between the sections of the trenches more freely than an infantryman. Moreover, the artillery corps received more information about the disposal of troops and the structure of the front (Nübel 2014, 283).

Trench warfare was a central topic in the press, which dedicated many articles to the creation of defensive systems and to the military maneuvers necessary to attack the entrenched enemy positions. Indeed, in addition to the trope of the destruction of the landscape, the tactical transformation of the territory by means of excavation, fortification, and demolition of underground passages and ditches dominated the WWI media. The public was informed that even a landscape apparently empty of soldiers could be full of tactical information. Illustrations helped the public to visually figure out the strategies for conquering fortresses through zigzag ditches, known as saps, and mine tunnels. These schematic drawings—sometimes republished after appearing on specialized foreign magazines, like the *Scientific American*—showed the general positions of the gun batteries and the trajectory of the howitzers within the geography of a specific section of the front, as well as the cooperation between artillery and aviation (fig. 2.30).

Moreover, since 1915, the conditions of soldiers in trench warfare were

⁵⁹ See the original passage: “Zugleich mit der Präzisierung der Entfernung der Grenze und ihrer Verknüpfung mit anschaulich gegebenen Momenten wird das Gerichtetsein der Landschaft ausgesprochen: Die Gegend zeigt sich als eine Zone, die ungefähr parallel der Grenze verläuft. [...] In der durch die Grenze und Gerichtetheit bestimmten Landschaft tritt nämlich im Gefecht im allgemeinen als besonderer Landschaftsteil das Gefechtsfeld, die ‚Stellung‘ auf.” (ibid., 441, 444)

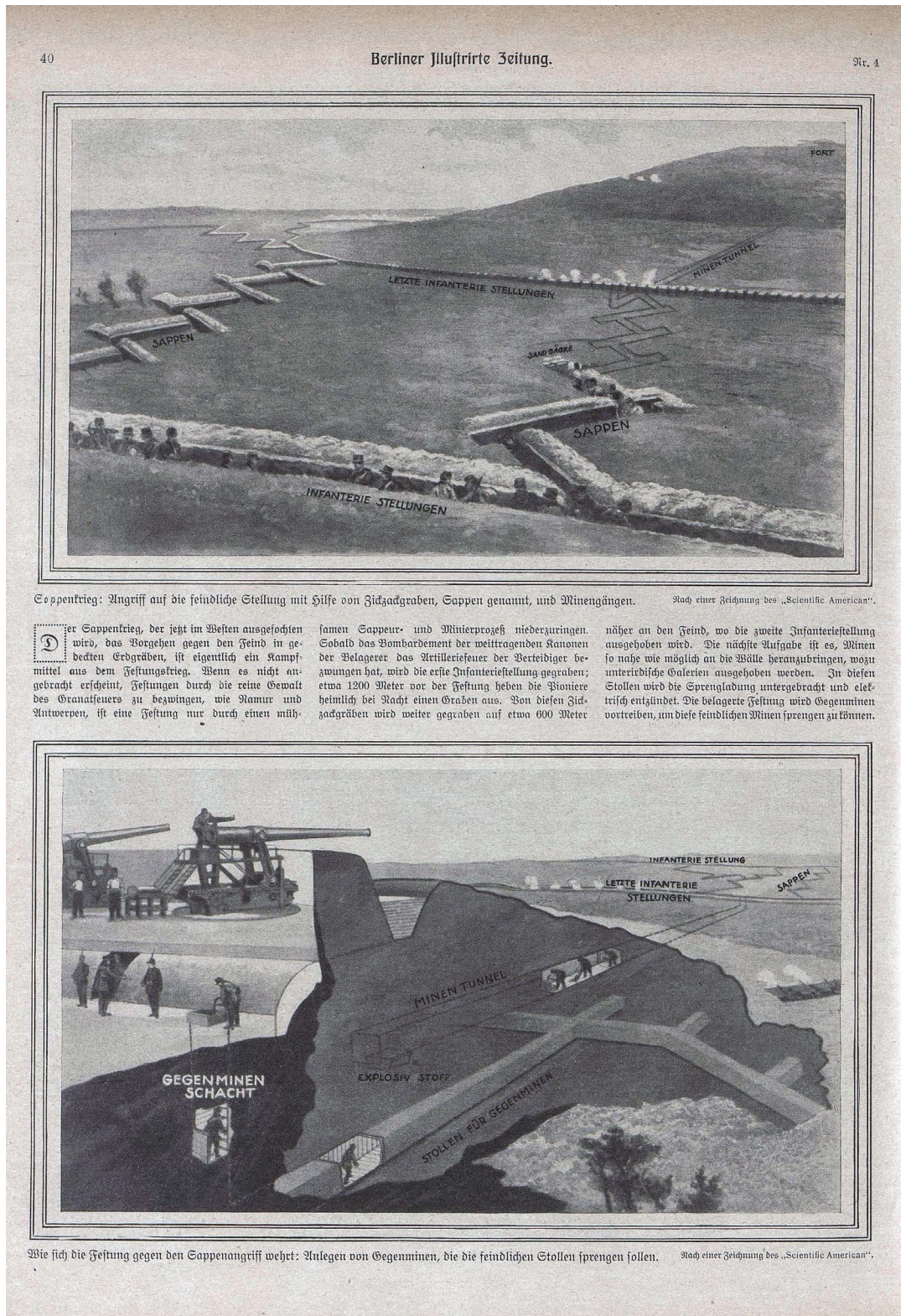


FIGURE 2.30: Schematic illustrations of the trench system first appeared in the Scientific American (*Berliner Illustrierte Zeitung* 1915, 40).



FIGURE 2.31: Staged trench systems in Berlin Westend. Postcard 1915 (Flemming 2004, 95).

propagandized through the excavation of life-sized trenches in the German Reich's major cities (Lange 2003a, 2003b). To reduce the distance between the fighting areas and the home front, the Kriegsministerium and the Red Cross inaugurated these staged trench systems, where civilians could immerse themselves in the *terrain-soil-ground*, getting an idea of the soldiers' experience in the attrition warfare (*Materialschlacht*). One of the most visited trenches in Germany was erected in the Berlin Zoological Garden as a part of the 1916 German War Exhibition (*Deutsche Kriegsausstellung*). The construction of the war experience through the active participation of the public removed all the threatening elements of the actual warfare (dirt, deafening noises, fighting, death) and offered an unconventional visual perception of a modified (even though not destroyed) landscape (fig. 2.31).

In other words, scientific illustrations informed the audience through scientific data, while three-dimensional installations educated the population about new forms of warfare by involving civilians in participatory experiences. Instead, photography provoked emotive reactions in the readers of illustrated magazines, aiming at letting their imagination "feel" the symbolic battlefield.

The creation of the symbolic landscape was realized using diverse techniques: snapshots in the aftermath of a battle, staged photographs of ongoing fighting, and manipulated pictures created by assembling different negatives.

These practices resulted from the impediment to free movement that photographers endured. As the Canadian official war photographer William Ivor Castle wrote: “One might get some wonderful photographs if one had complete liberty of movement. But one would want a hundred charmed lives and indulgence from the enemy” (Castle 1917). One of his most famous pictures in Germany, the Battle of Vimy Ridge, was the result of multiple views from different negatives. Presented at the Grafton Galleries, in central London in July 1917, it was the largest photograph ever made during its time: the exhibited printing measured circa 6 × 3 meters. The exceptional format of the picture, which portrayed the 29th Infantry Battalion advancing over No Man’s Land during the Battle of Vimy Ridge, made it the perfect subject to appear in an “modern” illustrated magazine such as the *BIZ*, despite portraying German opponents. Published on February 17, 1918, the caption obviously omitted the real subject of the picture and only focused on the enormous size (“Eine Riesenphotographie”) of the printing (fig. 2.32). Taken from a French newspaper, the snapshot recorded the gallery room in London where the gigantic photo covered an entire wall and three British soldiers were observing it with great interest. The glorification of war by means of photographs taken in the open field remained a desire of all the factions involved in the conflict. In Germany, such photographs (recorded during drills) did not circulate until the formation of the German *Bild und Film Amt* in 1917. Overall, only a minor number of pictures portraying brave soldiers on the open battlefield appeared, mainly in photographic volumes, at the end of the war.

Most photographs published in the German press between 1914-1918 and portraying the No Man’s Land showed only limited sections of bare landscapes apparently empty of any human presence. These landscapes lacked all the classical natural features (trees, vegetation, cultivations, etc.) and animal elements (livestock) that visually constituted the countryside. The only animals seen in the WWI landscape photographs of the Western Front were dead horses, which, as part of the cavalry troops, remained on the ground in the aftermath of battles. The concept of lunar-like landscapes (*Mondlandschaft*), namely a battlefield transformed into a shell-pocked field by the continuous artillery fire, became part of the ordinary visual and written language. The most tragic and desolate result of the total destruction was portrayed as an alien landscape on earth, which was accompanied by captions such as: “Not a lunar landscape, but a field in France with shell holes.”⁶⁰ For the first time, chemical weapons

⁶⁰ My translation; original: “Keine Mondlandschaft, sondern ein Feld in Frankreich mit Granate-Einschlagstellen.” (*Berliner Illustrierte Zeitung* 1915d)

Berliner Illustrierte Zeitung.

52

Nr. 7



Eine Riesenfotografie, die auf einer kanadischen Kriegsbilderausstellung zu sehen ist:
Die Fotografie ist eine Vergrößerung von 6 m 10 cm Breite und 8 m 35 cm Höhe. (Aus einer französischen Zeitschrift.)

D e r U r l a u b e r

Mit Zeichnungen von Friz Koch-Gotha.

Das Wort Urlaub hat seinen Sinn und Klang gewechselt. Früher verstand man darunter: Rucksack und Lodencape, verregnete Tage an der See, Fußwanderung durch Thüdingen, oder Ausflügen um 11 Uhr und Indie-Sonne-bingeln. Man verstand darunter: Fremde Leute, Gasthöfe und Giebelzimmer — das ja, nach jenem wihigen Engländer, außerordentlich schätzenswert ist, weil es eine Zuflucht bietet vor dem Familienleben. Heute bedeutet Urlaub: Zu Hause; Wiedersehen mit Nahrung, heranwachsende Kinder, Zivilkleidung — auch wenn's nicht sein soll —, Pakete; Butter, Speck, Tee und Kaffee — Heimat und Heimatklang; Ruhe nach dem Landstrechtsleben da draußen; Familie; Mutter; Braut oder Frau; Brotkarten, zwei Tage und zwei Nächte Bahnfahrt in schlecht gefeizten Zügen auf harten Bänken; bedeutet einen Unterschied, als ob man von der Erde auf den Mond läme, wo



Der Urlauber bei der Ankunft in der Heimat.

bekanntlich (wenigstens sagen's die Astronomen) sich die Landschaft merklich von der hiesigen unterscheiden soll, und die Luft sicherlich leichter und weniger dick ist. Kurz das Wort Urlaub hat sich in seinem Inhalt und in seiner seelischen Bedeutung so gewandelt wie kaum eines sonst. Es ist eigentlich gar nicht mehr das gleiche Wort. Es geht auch die Reihe um, wie der Plumpsock. Jeder kriegt's mal. Er hat sogar ein Recht darauf. Früher da kam der Urlauber mit leeren Händen an und zog bepackt mit allem Guten wieder heraus. Heute kommt er mit vollem Beutel, mit Paketen behangen wie der Weihnachtsmann nach Hause, und jeder alte Bekannte ist beleidigt, weil er ihm nichts mitgebracht hat. Die Zivilsachen riechen nach Naphthalin und anderem Zeug wie eine Naturalienhandlung; und wenn man sie anzieht, ist an der Stelle, wo früher der Bauch war, 'ne Falte. Eine Falte? Fünfhundertunddreizehn



„Ha! mein Bett!!“

Zeichnung von Friz Koch-Gotha.

FIGURE 2.32: William Ivor Castle's photograph "Battle of Vimy Ridge" as it appeared in the *Berliner Illustrierte Zeitung* (1918b, 52).

Nr. 34

Münchener Illustrierte Zeitung



Leipziger Pressebüro

Wolkenähnliche Rauchbildung bei der Explosion einer Gasbombe

FIGURE 2.33: The explosion of a gas bomb (Bock 1917, 341).

were used on a large scale, forcing troops to wear gas masks and showing the general audience the risks caused by toxic environments. In photography, toxic landscapes could be visualized by the dominating and spectacular presence of white poisonous clouds advancing on the battlefield at ground level (fig. 2.33). The explosion of gas bombs was, therefore, another popular figure and, together with the collision of other kinds of explosive weapons and the detonation of mines, constituted one of the few dynamic elements into WWI landscape photography.

The disturbing annihilation of the landscape that was portrayed in WWI photography coexisted in the press with the sensational moment of destruction caused by new weapons. Numerous reportages concerning the artillery fight in the battle of the Somme appeared in the magazine *Die Woche* in 1916. Organizing various photographs on one page, these reportages followed a narrative that the 1930's photojournalism would have called photo-essay. However, the development of these photo-stories produced a symbolic more than a documentary effect. Showing the crushing consequences of the artillery fire on the natural and cultural landscape, the issue 42 of *Die Woche* included three pictures on the same page under the title "Vom Artilleriekampf in dem Sommegebiet" (About the artillery fight in the Somme area, *Die Woche* 1916c,

1473). The first photograph showed the deflagration of shells in the open field in front of German positions, which created massive explosive blasts that vertically dominated the flat landscape. It was accompanied by a second picture of a tree being blown to smithereens, while the third image recorded the village of Thiepval razed to the ground by the continuing artillery fire (fig. 2.34). On the one hand, this kind of visual narration based on the “cause and effect” strategy explained the realization process of such a level of destruction to the readers. Through impressive photographs and captions like “Impact of a 30.5 cm shell from an Austro-Hungarian mortar,” the public was informed of the destructive capacity of the new military technology. On the other hand, by recording the exact moment a shell blew up a target, these photographs focused on spectacular clouds of debris, smoke, and dust that caught the readers’ eye and provoked a sense of awe and wonder in the public while hiding the view of death (fig. 2.35).

The terrifying and attractive force of the blast, monumentalized by photography, did not only express an increasing military power, but it also portrayed a “spectacle” that had all the features for evoking an ambiguous sentiment, later theorized as the technological sublime (Marx 1964; Nye 1994; Costa 1998). For its threatening effects, WWI military technology became a substitute of nature in evoking a new version of sublime.⁶¹ Industrial warfare created scenes, e.g., the artillery explosions, that could only be compared to powerful natural events such as volcanic eruptions, theorized by Immanuel Kant as dynamic forms of sublime (Kant 1790). The “negative lust” evoked by the dynamic sublime generated in the reader the realization of his/her finitude. Similarly, the exceeding forces of military technology, condensed in the recorded scenes of explosions, induced fear in the viewer who felt threatened by such a violent intensity. However, the “pleasure from perceiving objects that threaten to hurt or destroy observer” was determined by the safe distance from which the event was observed (Schopenhauer 1818). Paul Fussell, describing literary responses to WWI and transformations in the aesthetic perceptions of soldiers, noticed: “But with the landscape, the former domain of ‘beauty,’ ravaged and torn, and with ‘fear’ no longer the thrill of the old Sublime but a persistent physical terror, the time-honored nineteenth-century synthesis is no longer thinkable” (Fussell 1977, 86). According to Fussell, the sublime sentiment was excluded from the war experience, due to the extreme proximity of the soldiers to the destructive and terrifying events. On the contrary, the mediated perception of war

⁶¹ For a short introduction to the concept of sublime see Assunto (1967).



FIGURE 2.34: Effects of artillery on the Somme area (*Die Woche* 1916c, 1473).

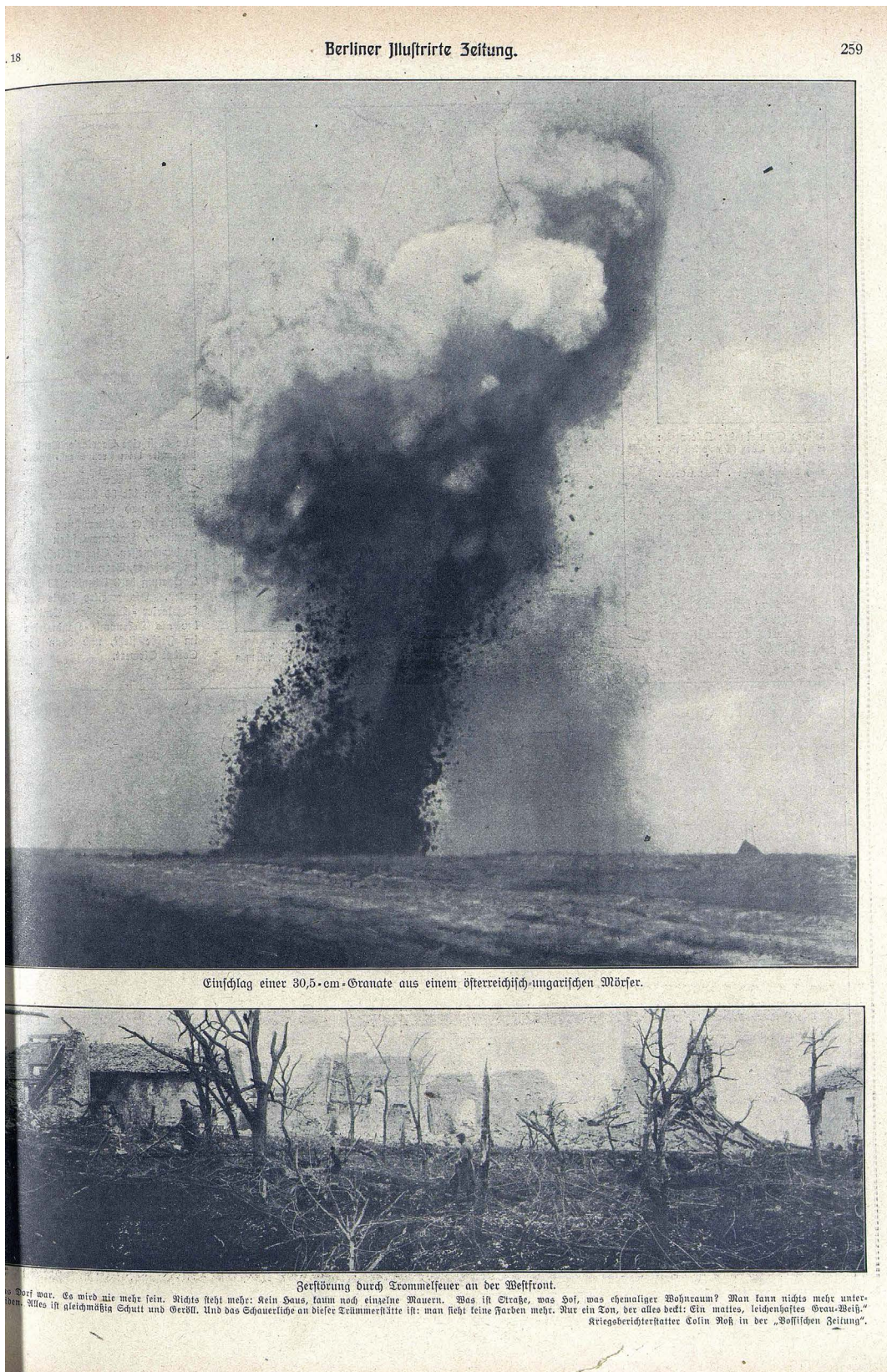


FIGURE 2.35: Impact of a 30.5 cm shell from an Austro-Hungarian mortar (*Berliner Illustrierte Zeitung* 1916j, 259).

proposed by illustrated volumes and magazines through photography, which mainly addressed the homeland front, allowed to keep the safe distance necessary for reaching that “delightful horror” characterizing the sublime (Burke 1757, 129). The destructive power of the war machinery exceeded the ordinary understanding and imagination of the population, which, however, could appreciate the technological phenomenon with detachment from the immediate physical danger. The sublimation of war destruction realized through the mediating experience of photography also continued after the end of the war. In the Weimar Republic, WWI photographs were republished outside their original context, proposing “sublime explosions” on full-page photographic volumes (Paul 2004, 143–44). This narrative emphasized, even more, the new form of sublime: a fascination-repulsion that shifted from natural forces to technological processes and condensed in Ernst Jünger’s book title “*Stahlgewittern*” (The storm of steel).

The circulation of landscape photographs in WWI German print media revolved around the picturesque harmonic scenes of the fatherland in contrast with the entrenched and destroyed landscape of the Western Front. This new type of military landscape comprehended different motifs: the devastated forest, the lunar landscape, and the toxic environment. These three themes shaped the representation of the so-called No Man’s Land, an unfamiliar visual subject for the German public before the outbreak of WWI. In this strip of contended land, recordings of artillery explosions constituted anticipatory forms of technological sublime.

The transformation of the morphology of the French and Belgian environments, caused by destructive military weapons, had an enormous impact on the prewar photographic landscape canons. Along with the change in the themes of landscape photography, the interesting character of WWI representations lay in the photographic composition. The photographs of the Western Front displaced all the compositional elements that in the landscape painting tradition had directed the gaze across a landscape, allowing the viewer to embrace the represented space entirely. In fact, since seventeenth-century Western art, the landscape genre has corresponded to a wide view, usually ensured by a horizontal picture format in which all the visual units of the composition were coherently arranged to reach total unity. Above land or sea, these views always included the sky. In the upper portion of the painting, weather phenomena dominated the composition, artistically represented in the form of clouds, rain, and fog. On the contrary, the WWI landscape has lost all of its landmarks,

such as vegetation, trees, cultivations, and villages, remaining a barren, broken, flattened No Man's Land. The point of view of the photographer collapsed into the *terrain-soil-ground*; an element that occupied most of the photographic composition, limiting, at the same time, the observer's vision. The landscape from an all-embracing vista became a contained and bordered piece of exploited or destroyed land. Essentially, in WWI photographs, the landscape had turned into land|scape.

Chapter 3

The Conquest of Air (Luftkrieg) - The View from Above

Abstraction

3.1 Aerial Photo-Reconnaissance and a New Topography

Nowadays, in the time of mass air travel, aerial view has become an ordinary and conventional vista. During long-haul flights, soon after taking off and despite the daylight, the aircrew requests passengers to lower their window shades to facilitate people sleeping and watching their screens. Paradoxically, there is the chance travelers will end up watching documentaries or movies, which show some of the increasingly popular panoramas filmed by camera drones: missing the opportunity to observe directly from an elevated perspective the landscape beneath.

After less than one hundred years since the promotion of civil aviation, which grew rapidly after the Second World War, aerial view no longer creates excitement, astonishment, or puzzlement. Contemporary “mobile lives” imply people travel around the globe as never before, and even when not physically transported from one place to another, the “virtual mobility” offers mediated views of spectacular landscapes shown through high-resolution displays (Elliott and Urry 2010). Oblique bird’s-eye vistas and vertical God’s-eye views have become familiar in many postmodern societies, also thanks to web mapping platforms like Google Maps. Moreover, once UAVs are sold as hobby gadgets for relatively accessible prices, everyone can take aerial photographs by activating the digital cameras mounted to the unmanned aerial vehicles. Since humanity has conceptually, visually, and physically conquered the airspace, the extraterrestrial cosmos represents the future frontier.

Although the view from above has been normalized, exploring the impact the first aerial photographs had on people’s way of conceiving the landscape reveals unexpected elements, which also clarify how contemporary perception of space has been formed. The profound change in the habits of vision raised in the first half of the last century represents, in fact, a turning point in depicting, describing, and studying the shape and features of land, defining a completely new perspective of the world.

Specifically, in this section I argue that a radical transformation of public opinion’s perception and representation of the landscape occurred exactly during the First World War when—for political, military, documentary, and propagandistic reasons—three fundamental technological innovations have been simultaneously enhanced: airplane, photography, and photomechanical printing enabled together a reshaping of the visual culture of many countries involved

in the conflict. Only these concomitant technological developments allowed a high number of aerial views to be disseminated through postcards and newspapers reaching not only experts in the field of aviation, meteorologists, or the educated elite, but influencing society at large.

The first uses of photography for civil survey and military reconnaissance in Germany occurred in connection with the activities of the club *Deutscher Verein zur Förderung der Luftschiffahrt* (1881) and the military unit *Königlich Preussische Luftschiffer-Abteilung* (1885). At the turn of the century, Berlin became the German center for aerostat photography, and within this context, the oldest surviving German photographs were recorded. One of these pictures appeared in the illustrated magazine *Die Gartenlaube* in 1886, even though the reproduction of photographs in newspapers was only possible through graphic transposition, making the pictures look like detailed drawings. The limitation imposed by printing technology is one of the causes of the relatively low diffusion of aerial photography outside elite circles before the outbreak of the First World War.¹

In the Western world more in general, pioneering aerial photographs from balloons or kites already appeared a couple of decades after the invention of photography—the first was Félix Nadar's image of Paris in 1858, followed by J.W. Black's iconic shot of Boston two years later (Newhall 1969). However, it was only at the beginning of the twentieth century that a more consistent number of aerial and panoramic vistas started to circulate. Although aerial photography was still an emerging market, the first snapshots from the air were sold in the course of air races and air shows, which were organized throughout Europe, satisfying the fascination of the public for air travel as well as accommodating the techno-scientific interest of experts for the latest innovations in the field (Wohl 1994).

The oldest international aviation exhibition in Germany, the *Internationale Luftschiffahrt-Ausstellung (ILA) Frankfurt*, occurred in 1909 and attracted more than one million guests. During the hundred days of the show, visitors could attend conferences and demonstrations, visit the section regarding the history of flight, discover new models of aircraft, talk with inventors and exhibitors, buy souvenirs, enter the interior of the aerostat Preussen displayed at the center of the large exhibition hall, without missing the extraordinary experience

¹ Cf. *Die Gartenlaube* (1886, 721). The history of aerial photography in Germany until 1945 has been recently analyzed by Marco Rasch (2021), who focuses on the multiple civil uses of this instrument, which were particularly significant during the period of the Weimar Republic.

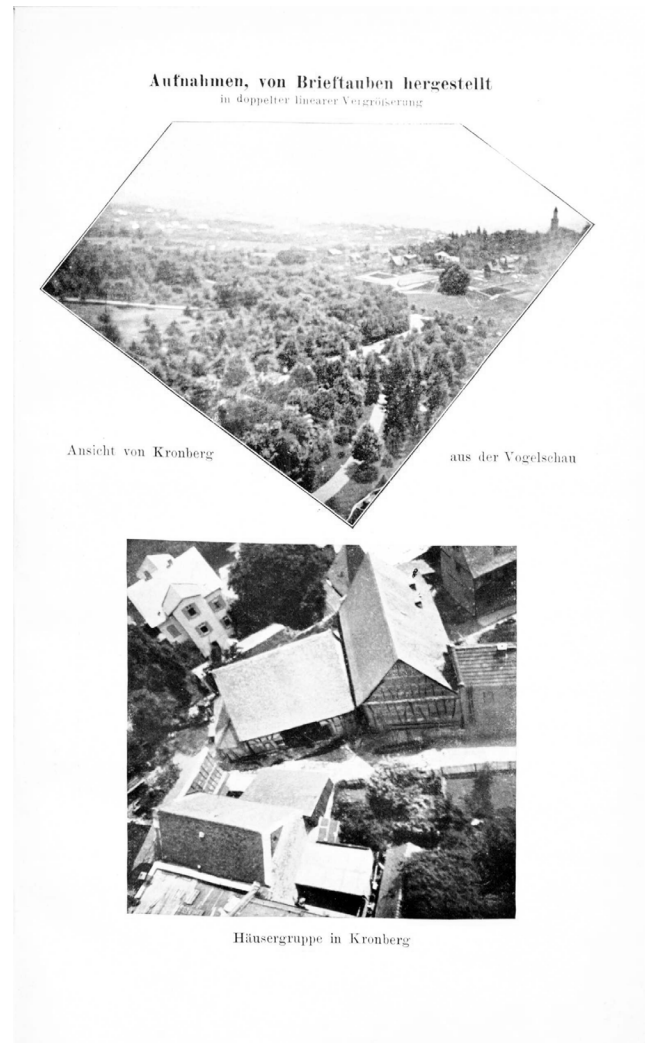


FIGURE 3.1: Two enlargements of pigeon photographs representing the city of Kronberg im Taunus and published in Neubronner's 1909 book.

of getting on a tethered balloon admiring the exhibition venue from above. In this spectacular festival, rigid dirigibles powered by propellers, such as the famous Zeppelin and Parseval, were also exhibited, offering the wealthiest spectators the opportunity to travel on an airship (*Zur Erinnerung an die ILA 1909*; Wachsmuth and Lepsius 1911; Liebmann 1997).

In the course of this event, the German apothecary Julius Neubronner presented the results of his experimentation with pigeon photography. The rudimentary aerial photographic technique consisted in attaching a miniature camera, containing a film and a timer mechanism, to the breast harness of homing pigeons. The resulting pictures showed unconventional perspectives: literally bird's-eye views with skewed angles and random framing portraying pieces of terrain, which preserved a wild quality attributable to the freedom of movement of the animals (Neubronner 1909, fig. 3.1). Neubronner advertised his invention through postcards and, prefiguring various applications of his discovery, he also published a book entitled *Die Briefftaubenphotographie und ihre*

Bedeutung für die Kriegskunst, als Doppelsport, für die Wissenschaft und im Dienste der Presse (Pigeon Photography and its Meaning for the Art of War, as a Sport, for Science, and at the Service of the Press). Just like some airships were advertised at the *ILA* as military aircraft, also pigeon photography was featured as a technique for aerial reconnaissance with military potential (although later it did not play a fundamental role in the actual warfare).

Apart from pigeon photography, which was advertised with articles in the most popular newspapers all around the globe, the magazine *Die Woche* launched the series “Deutsche Ballonaufnahmen,” in which various German regions were recorded from the sky.² The distributed aerial material mainly featured cityscapes with famous monuments and picturesque panoramas.³ These illustrative images from elevated positions (often gathered within oval frames) followed the tradition of the pictorial map: static representations of cities viewed from above at an oblique angle to facilitate the viewer’s recognition of landmarks. In 1913, for instance, the *Münchener Illustrierte Zeitung*, a weekly publication distributed in Bavaria, circulated some of these photographs combined with captions reporting: “An interesting picture of the Monument to the Battle of the Nations in Leipzig taken from a Zeppelin Kreuzer Hansa,”⁴ (fig. 3.2) and “View of Bogenhausen-Munich from an airplane. In the foreground on the right the Maximilianeum, on the left the Victory Monument, behind it the Prinzregententheater. This interesting picture (the first from an airplane flying over Munich) was taken by our photographer during the homage flight to celebrate of the German Emperor’s birthday [. . .].”⁵

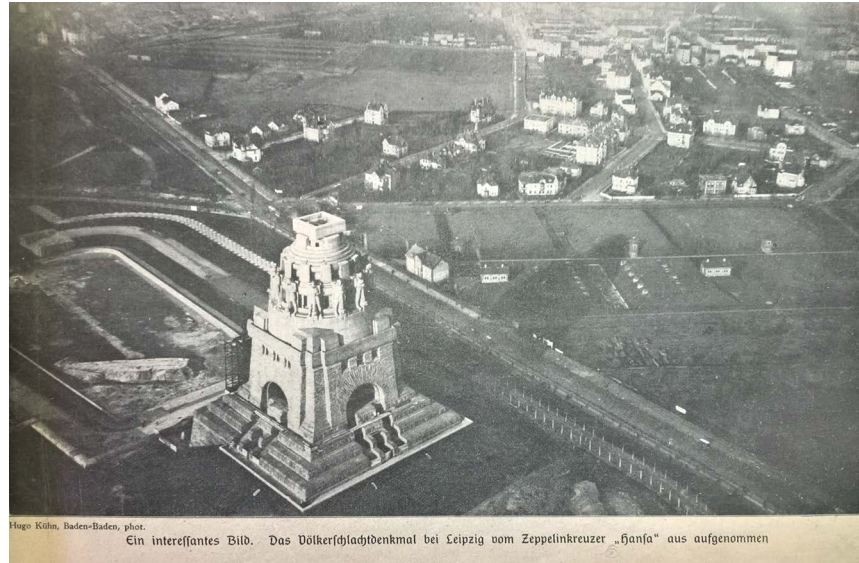
² Earlier photographs from balloons and airships can be found in publications concerning the technical development of flying vehicles, which addressed an audience of experts. An example is *Moderne Luftschiffahrt*, the book published by the geophysicist and meteorologist Franz Linke (1902). See also Bröckelmann (1909).

³ The European painting tradition described landscape through the aesthetic concepts of the sublime (nature’s awesome power), the beautiful (harmonious and pleasing nature), the picturesque (nature softened by the hand of man). The majority of mass publications in Germany at the beginning of the twentieth century proposed picturesque landscapes. In Bavaria, for instance, the magazine *Münchener Illustrierte Zeitung* regularly presented a visual collection of picturesque landscapes in the weekly column “Bayrische Städtebilder.”

⁴ My translation; original: “Ein interessantes Bild. Das Völkerschlachtdenkmal bei Leipzig von Zeppelinkreuzer ‚Hansa‘ aus aufgenommen.” (*Münchener Illustrierte Zeitung* 1913b, 133)

⁵ My translation; original: “Blick von einem Aeroplan auf Bogenhausen-München. Im Vordergrund rechts das Maximilianeum, links das Siegesdenkmal, dahinter das Prinzregententheater. Diese interessante Aufnahme (die erste von einem Aeroplan aus, der München überflog) wurde während des Huldigungsfluges anlässlich des Geburtstages des Deutschen Kaisers, den Ingenieur Dick von den Flugwerken Deutschland (München-Milbertshofen) mit einem Doppeldecker unternahm, von unserem Spezialphotographen gemacht.” (*Münchener Illustrierte Zeitung* 1913a)

FIGURE 3.2:
The Monument
to the Battle of
the Nations
in Leipzig
(*Münchener Illustrierte Zeitung*
1913b, 133)



Following the Western painting tradition of topographical views, illustrated newspapers showed aerial vistas of specific landmarks with the purpose of enhancing the growing phenomenon of mass tourism and allowing locals to see the familiar environment in which they lived from an unexpected perspective. Although these photographs did not completely differ from the previous artistic canons, the excitement of the public for this material could be explained by Le Corbusier’s statement: “The eye now sees in substance what the mind formerly could only subjectively conceive” (Le Corbusier 1935, 102). For the first time, aerial views did not only belong to the imagination of artists, but everyone could more precisely and objectively see what a bird sees, what a pilot (as a heroic figure) sees. This thirst for observing from a nonhuman distance was amplified during the war, leading to aesthetic results that ultimately departed from the established manners of representation.

At the beginning of the conflict, the army took over the latest discoveries in the sectors of flying machines and photography and, accelerating the successful combination of photo device and airplane (which had meanwhile substituted the dirigible), exploited photo-reconnaissance for intelligence and mapping (Jäger 2007; Vogler 2020). Pilots started to take pictures with conventional hand-held cameras during their visual aerial surveys, noticing that photography could acquire more detailed information to integrate into their reports. When commander officers understood the value of this material in revealing changing patterns on the battleground—measuring and anticipating the enemy’s actions—specialized automatic cameras were developed to be mounted on the external side of the aircrafts or within the fuselage (fig. 3.3). To avoid interception, reconnaissance aircraft needed to fly at higher altitudes,



(a) German observer with a handheld camera taking pictures from an airplane in spring 1917.



(b) American Biplane Curtiss JN-4 with external mount for aerial cameras.



(c) Camera mounted within the airplane fuselage (Hardesty 2015).

FIGURE 3.3: Uses of aerial cameras in WWI airplanes.

causing several problems to the mechanisms of cameras: lower temperature generated moisture in the devices and frozen lubricants. In order to prevent this inconvenience, Germans provided their cameras with an electrical heating system. The Rumpler C IV was a typical two-seat fighter/reconnaissance airplane, mass-produced in 1917; it could reach high altitudes of up to 7000 meters, thereby avoiding anti-aircraft artillery, and the camera lens was positioned through a hole in the fuselage under the observer's position.

Since artillery, the dominant weapon of WWI combat, depended on accurate topographic control, aerial photography also supported mapping operations, which covered all battlefields including the fronts in the Middle East.⁶ New methods to obtain accurate planimetry from aerial photography and to interpret ground features were tested: the *Reihenbildner*, for instance, was the first automatic camera that consented to make an aerial map of a vast area by recording a series of photographic sections of terrain (strips) through a technique known as photographic mosaic (Jäger 2007, 292–93). The device was equipped with a standard cinema film and, by following the principles of a movie camera, made circa 240 photographs on a single film roll of 60 meters. However, glass plates continued to be employed due to their superior sharpness, which was preferable for detecting and striking specific targets.

Although at the outbreak of WWI the official use of aerial photographs encountered the resistance of the traditionalist senior leadership, by the end of the conflict, aerial photography had a significant impact in operational planning and surveying as well as in reconnaissance. It has been estimated that Germany, who had a leading role in the employment of aerial reconnaissance, took around 4000 photos a day, covering the entire Western Front twice a month in the last year of the war (Stanley 1981, 26). As James B. Campbell has argued, WWI had been the “incubator” for many of the aerial photographic techniques and photo interpretation systems that were then largely employed in WWII (Campbell 2008, 77).

One of the largest WWI aerial photographs collection still accessible today is housed in the Bavarian War Archive in Munich. Representing only a small portion of the aerial photo material made by the German aviation in WWI (the rest of the collection in Berlin was destroyed during the Second World War), it includes 127 box files containing thousands of photos each, as well as 2663 pictures taken by a special aviation unit active in Egypt and Palestine, and more than 10000 aerial photographs of places and military installations in Bavaria

⁶ See the chapter *Mapping “Mesopotamia”* in Kaplan (2018, 138–79).

produced by training units (Flieger-Beobachter-Schule Schleißheim). Opening these boxes packed with black and white prints, films, and glass-plate negatives gives a sense of the enormous amount of visual data accumulated during the *Luftkrieg*, namely the first aerial warfare in history (Stichelbaut 2015).

As an expert in imaginary intelligence heritage, Colonel Roy M. Stanley explains that aerial photography during the world wars was “work photography.” Still pictures were produced automatically at short intervals within an industrial system, which provided as much information as possible on a specific territory, enabling coverage of ample sections of the battlefield through overlapping shots. The majority of these aerial pictures contained a black stripe reporting the name of the aviation unit, number of shot, date, time, location, grid reference, altitude, and focal length; on the images, an arrow indicates the north. Cameras used in the military context provided both oblique and vertical images. The oblique perspective highlighted the shape of three-dimensional elements (which were also emphasized by stereoscopic analysis). Vertical views, instead, recorded greater areas from higher altitudes, which made the landscape appear flat. This photographic material allowed photo interpreters to recognize changing patterns on the ground and to measure distances between targets. In this “factory-style output of war information,” as Paul Virilio (1989) put it, the utilitarian character of the images has been highlighted by many scholars, including Allan Sekula (1984) and Harun Farocki (2002).⁷

If the production of aerial photography for military intelligence was staggering, the large-scale reproduction and distribution of this material to *in-form* public opinion was just as significant. Although the most important photographic agencies in England and France stopped collaborating with Germany at the outbreak of the war, and paper was in short supply, publishing companies rapidly adapted to the new situation by restructuring the volume and content of their publications. With a reduction in the number of pages for single issue, many German illustrated magazines continued to be published weekly.⁸ Interestingly, the public demand for news from the various theaters of war increased people’s interest in visual reports. Illustrations, maps, and aerial photos facilitated the readers’ understanding of events in war zones (troops’ movements, commanders’ decisions, and military activities on the front lines).

⁷ In the German speaking context, the photo-historian Anton Holzer describes photography used for military purposes as the “Technical Gaze” (*Der technische Blick*). See Holzer (2003, 16–18).

⁸ The most popular illustrated magazines in wartime were the *Berliner Illustrirte Zeitung* (BIZ) and *Die Woche*, both published in Berlin. For an overview of photography and the German press, see the section 1.2 of this dissertation.

Moreover, many illustrated magazines specifically dedicated to the developments of war started to appear in 1915. Offering experts' in-depth analysis of military strategies and innovative technologies employed on the battlegrounds, these magazines were accompanied by many illustrative photographs, sometimes covering entire pages, which at that time measured ca. 35 × 25 cm. Over the years, the number of photographs incorporated in newspapers increased, substituting illustrations.

Therefore, despite restrictions in publishing during the conflict, a greater number of informative and propagandistic aerial photographs circulated in newspapers, magazines, and photographic volumes. In 1914, the most popular illustrated newspapers included mainly maps and illustrative war landscapes drawn by artists, but, starting from 1915, the number of published aerial photographs increased significantly, reaching its peak between 1917 and 1918. In this period, an aerial photo appeared at least every two weeks in regular illustrated magazines and even more frequently in the newspapers dedicated to war. Most of the pictures taken from balloons, dirigibles, and airplanes in wartime were primary reconnaissance images created for military reasons. Only at a later time, they were made public—although the black stripe reporting technical information about the shot was always removed for military security. German publishers also circulated photographs that were produced and previously published by other belligerent countries. This practice occurred since the German army's restrictions regarding the diffusion of military visual resources were even stricter than in other states. Thus, aerial pictures of decisive war events could be found identically reproduced in newspapers of various nations. Even though this practice included all war photographic subjects, it is also important to notice that aerial photographs circulating in the German press were mainly national productions instead of being imported from foreign magazines. The prestige of showing aerial views taken by the German aviation exceeded the control of the censorship. Demonstrating the dominance of the airspace through aerial photographs indicated the national superiority over the enemy.

During the warfare, people were not only exposed to a greater circulation of aerial photographs, but in these representations the landscape appeared increasingly unusual, distant, and abstract. For the first time, the subject of the picture and the observer's point of view underwent a radical change. In painting, as well as in photography before the war, the landscape was typically depicted as a wide view of a natural scenery—with mountains, valleys,

trees, rivers, and forests (sometimes also as an imaginary panorama, which the German tradition classified as *Weltlandschaft*). Otherwise, it was represented through a *veduta*, namely a highly detailed cityscape. In the first decade of the twentieth century, the lexicon used in mass publications to describe landscape photographs composed in the manner of painting consisted of expressions like “malerisches Bild” (picturesque image), “malerische Aussicht” (scenic view), or “Ansicht von. . .” (view of. . .), and “Panorama.” Once aerial views spread out, a new vocabulary appeared with recurring expressions such as “Luftaufnahme” (aerial photograph), “Luftbild” (aerial picture), and “Blick von. . . (einem Aero-plan) aus” (gaze from a specific position). This new terminology emphasized the role of photography as an objective medium, which, unlike painting, was able to record a situation, “taking away”⁹ (*abnehmen*) the aspect of real events and making it visible again to the general public. Moreover, for the first time, the subject of the picture was secondary to the point of view of the observer: the reader was asked to identify him/herself with the heroic aviator, who, unbelievably, could record the earth surface from the air.

In contrast to the previous pictorial canons, the militarized visualities between 1914 and 1918 proposed *terrain-soil-ground* as the predominant and primordial element of the conflict. Unrecognizable countryside and ruined cities were the new subjects of pictures, in which the landscape was transformed into barren land by the unprecedented force of a destructive technology. Magazines dedicated to the chronicle of the conflict gave ample attention to the shell-torn ground of the Flanders. For instance, *Die große Zeit: Illustrierte Kriegsgeschichte* published in 1917 an entire page covered with three horizontal aerial pictures, showing the ruins of Zonnebeke, a town in the Belgian province of West Flanders (fig. 3.4). Aerial shots of the identical scene taken at different altitudes induce the observer’s gaze to zoom in on the terrain, following the airplane’s descent in the battlefield. The visual experience of plunging into the earth, entering the moonscape of the combat zone, was meant to show how surprisingly the aviator, one of the key figures of the Great War, perceived the land: “Wie der Flieger die Kämpfe in Flandern sah” (How the aviator saw the battles in Flanders). Implicitly, publishing these pictures also symbolized that the conquest of air was a conquest of land.

Therefore, belligerent countries often showed propagandistic aerial pictures of portions of the battlefield during offensive actions to demonstrate the

⁹ Regarding the idea of photography as a “taking away” the appearance of reality, see Ernst Jünger’s piece: “Photographieren hieß früher »abnehmen«. Man nimmt ein Äußeres, den Schein des Menschen, wie eine Maske ab.” (Jünger 1974, 150)

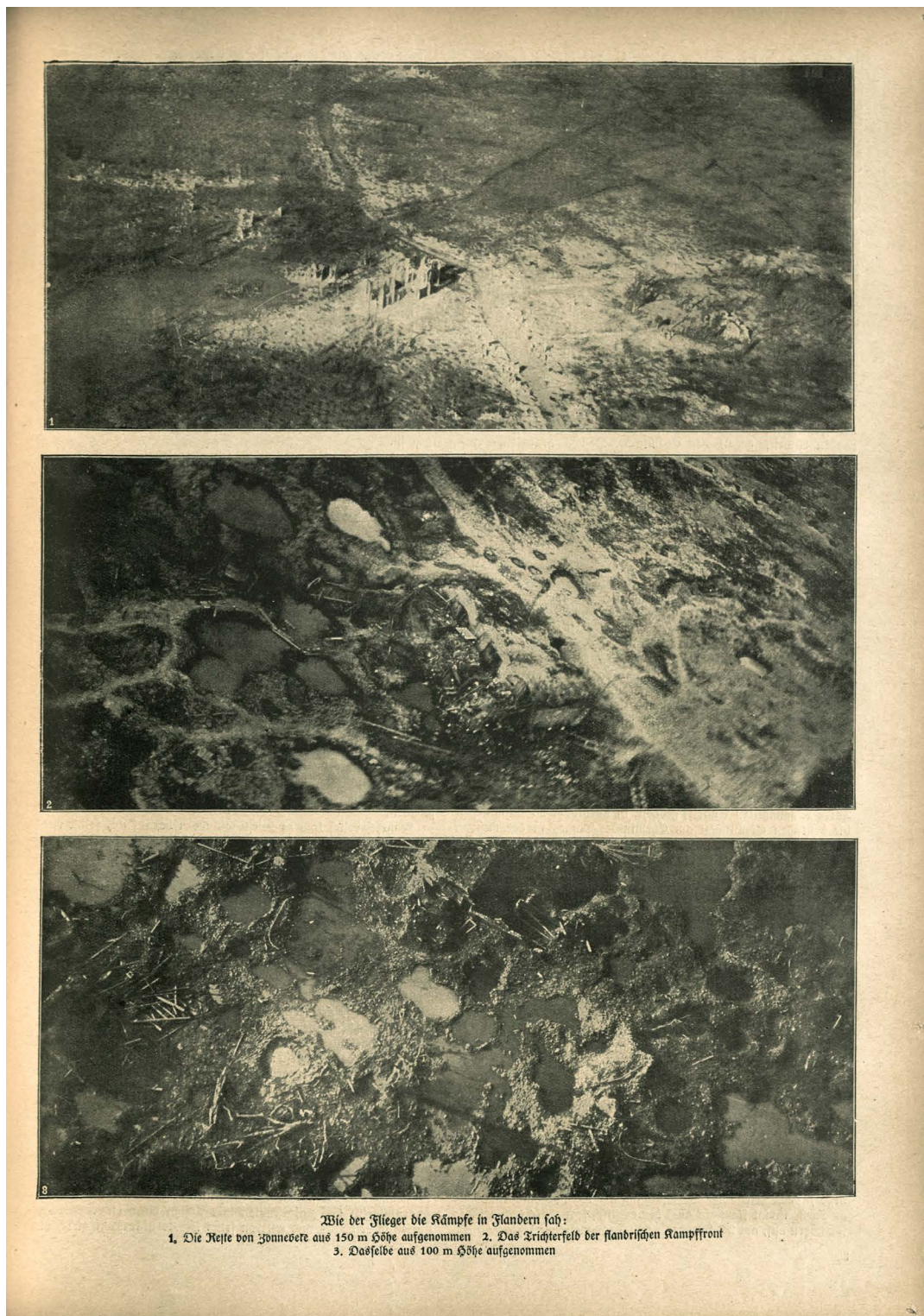


FIGURE 3.4: Zooming in on the ruins of Zonnebeke using aerial photography. (*Die große Zeit: Kriegsgeschichte 1915 – 1918* 1917, 349)

ability to control the military front through innovative weapons. Pictures like the aerial vista of the ruins of Ypres, or the view from above recording toxic clouds during a German gas attack on the Eastern front (fig. 3.5), circulated worldwide in WWI and were often reproduced for many years after the end of the conflict. Publishing two aerial pictures next to another presenting a target (a village, a fort, or a train station) before and after a bombing was a common practice (fig. 3.6). This visual material was accompanied by the recurrent caption “Der erfolgreiche Angriff unserer Flieger” (The successful attack of our aviators). While propagandizing the idea that “our” nation owned the most innovative and effective aviation, these pictures implicitly showed the readers that photography applied to military needs could be employed as a “technology of power” and destruction. In fact, in the military context, the aerial view that immediately preceded an attack served to define the precise target, while the second record allowed to measure the consequences inflicted by the bombing. The moment a bomb has been dropped on the Port of Constanța in Romania was presented to the German public in the 1917 *Münchener Illustrierte Zeitung* in these terms (fig. 3.7): “Aerial view of Port of Constanța. At the bottom of the picture, the smoke cloud of a bomb hit can be seen. The black spot in the left foreground is the shadow of the cloud of smoke.”¹⁰

Meanwhile describing the success of the German aviation and displaying the evolution of the conflict, military propaganda published aerial material due to its sensational aesthetic character. The main goal of the propaganda in wartime consisted in showing the war as a spectacular adventure in order to persuade the young generation to join the army. Furthermore, the sacrifice of the soldiers at the front to achieve the German victory was displayed with the purpose of raising the spirit of nationalism in the population. However, the employment of aerial photographs to reach these aims represented a mass media innovation. In 1918, *BUFA*—a WWI unit founded by the German Supreme Army Command to include the medium of film in the warfare—circulated the short movie *Rentier Kulicke’s Flug zur Front* (Pensioner Kulicke’s Flight to the Front), which contained film footage and photographs provided by the German aviation. The movie told the story of the war-weary Berliner Kulicke protesting because he has just received the call to patriotic auxiliary service. Later, he changes his mind after a dream in which, flying over the front and back home, he compares the destroyed French cities with the beautiful untouched

¹⁰ My translation; original: “Fliegeraufnahme des Hafens von Constanța. Auf dem Bild ist unten die Rauchwolke eines Bombentreffers zu erkennen. Der schwarze Fleck links davon ist der Schatten der Rauchwolke.” (*Münchener Illustrierte Zeitung* 1917b, 22)



FIGURE 3.5: Toxic clouds during a German gas attack on the Eastern front (*Berliner Illustrierte Zeitung* 1916e, 507).



FIGURE 3.6: Aerial pictures of Fort Douaumont in 1915 and 1916 (*Berliner Illustrierte Zeitung* 1916c, 6).

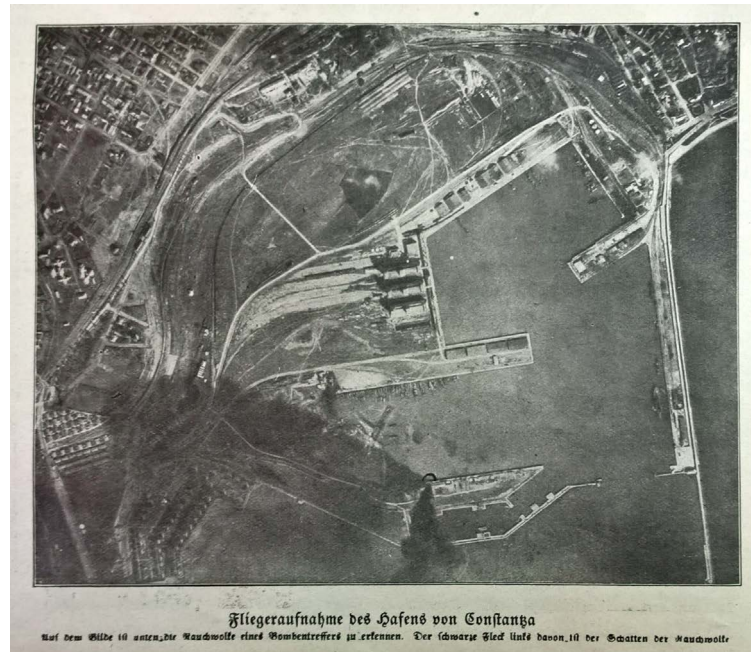


FIGURE 3.7: Bombing raid on the Port of Constanța (*Münchener Illustrierte Zeitung* 1917b, 22).

Berlin. Happy that the war did not take place on German soil, thanks to the sacrifice of brave soldiers, he signs the war loan, which he had rejected before (BUFA 1918). Apart from the clear propagandistic intention of the movie, it is interesting to notice the facial expression of the old Kulicke while observing from the airplane the landscape below: the initial fear of taking off and going beyond the clouds gives way to disorientation when Kulicke faces from a distance the unrecognizable moonscape of the front, and his feelings are finally transformed into pure excitement in admiring and rediscovering from an unconventional point of view his beloved hometown.

Many publications during the war employed aerial photographs to overcome the population's fear, proposing exciting pictures portraying the achieved technological successes of the army or surprising views from above of foreign locations. This is the case of pictures of bastion forts that reveal from the air their astonishing star-shaped plan (fig. 3.8); for instance, an aerial view of Daugavgrīvas fortress (now in Latvian territory but at that time under Russian rules), was published on the *Münchener Illustrierte Zeitung* and was described as "Eine hochinteressante deutsche Fliegeraufnahme" (A very interesting German aerial view) (*Münchener Illustrierte Zeitung* 1917a, 84).

Even the miserable landscape of the front, where death reigned, was often shown at a high altitude through sensational vertical aerial views taken with the camera axis perpendicular to the earth's surface. This kind of innovative

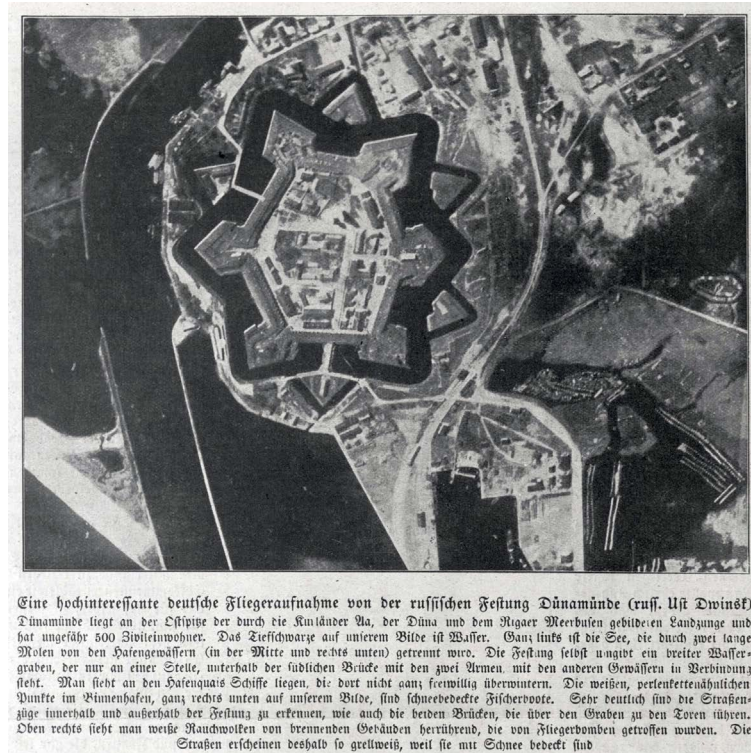


FIGURE 3.8: Aerial view of Daugavgrīvas fortress (*Münchener Illustrierte Zeitung* 1917a, 84).

photographic representation (fig. 3.9) emerged when the military developed photographic cartography, and it started to amply appear in German publications in 1916.¹¹ Unlike oblique aerial views, vertical photographs try to abolish the principle of the linear perspective: the technique that allows to represent on a plane surface the spatial relation of objects as they might appear to the human eye. Invented in the Renaissance and widely used in Western painting, drawing, and urban planning, linear perspective gives the illusion of depth by means of depicting all parallel lines converging to vanishing points; therefore, making objects appear smaller as their distance from the observer increases.

On the contrary, vertical aerial view presents space excluding any tridimensional effects: the difference between foreground and background disappeared, as well as vanishing point, horizon, and sky.¹² Capturing the abstract flat land, vertical aerial photographs are able to reveal vivid images composed of patterns, which resemble the geometric and natural motifs utilized by the so-called applied arts. In fact, pilots have often described the Earth's surface

¹¹ Vertical perspectives on selected sites existed since the early modern period in terms of urban plans and topographic and chorographic maps, also employed in navigation. However, photographic vertical views taken at high altitudes with an unprecedented level of detail circulated only starting from WWI.

¹² For a deeper comparison between vertical photography and linear perspective that shows similarities and difference between these two methods, see section 3.4 of this dissertation.

FIGURE 3.9: Promotional pamphlet of the company Junkers illustrating vertical aerial photography at the end of the twenties.



seen from above as a “flat carpet” and the British archaeologist O. G. S. Crawford, involved in aerial reconnaissance along the Western front in WWI, wrote that “the distant view is necessary to convert chaos into order.”¹³

Vertical aerial photography employed as a military method became the military observer’s tool to map more precisely the terrain. The human eye, however, needed to be trained in order to be able to interpret this new geography from the air. Pilots, aerial observers, and photo-interpreters learned to see the landscape according to taxonomies and acquired skills in photo recording and interpretation by means of imaging and surveillance technology manuals and programs; in Germany the training took place in the *Flieger-Beobachtungsschule* through manuals like *Lehrbehelf für Photographie aus dem Flugzeuge für Beobachter-Offiziere* (Teaching Aid for Photography from Airplanes for Observer Officers, Thiel 1916), *Die Erkundung aus Fliegerbildern* (Reconnaissance from Aerial Photographs, Wecker [ca. 1916]), or *Das Taktische Lichtbilderbuch* (The Tactical Photo-Book, Generalstab 1916). This training of the eye did

¹³ See also: “If one looks through a magnifying-glass at a half-tone illustration made through a coarse screen, it ceases to be seen as a picture and becomes a meaningless maze of blurred dots. If one holds it some distance off and looks at it with the naked eye it becomes a picture again. The observer on the ground is like the user of the magnifying-glass; the observer (or camera) in the air is like him who looks at the half-tone picture from a distance” (Crawford and Keiller 1928, 6). In the article *Luftbildaufnahmen von archäologischen Bodendenkmälern in England*, Crawford also used the metaphor of the cat’s vision on a Persian rug, whose pattern is blurred by the proximity of the animal (Crawford 1938, 9–22). Cf. also (Nadar 1900, 58).

not only apply to the military, but rapidly spread among civilians who were taught to understand and assimilate new photographic environments, which were completely unimagined before the perfect combination of photography and airplane. Vertical aerial photography, which largely appeared on magazines during the war, was explained to the population through dedicated articles that repeated the mantra: “Wie der Flieger sieht,” “Was der Flieger sieht” (How/what the aviator see). In March 1917, the *Berliner Illustrierte Zeitung* published an analysis of the new way of seeing the landscape from above developed by the aviation, describing the role of the pilot (Flieger) and the observer (Beobachter), and comparing their “trained eyes” with the vision of an ordinary citizen (*Berliner Illustrierte Zeitung* 1917b, 130-31, fig. 3.10).

Sehen ist Uebungssache! Achtlos übersieht das nicht geschulte Auge, was für das Künstlerauge von größter Wichtigkeit, von stärkstem Reiz ist. Der Laie sieht eine anmutige Landschaft, der Generalstabsoffizier erblickt darin eine Fülle taktischer Möglichkeiten. Wer zum ersten Male fliegt, wird seine Freude haben an der Welt wie er sie von oben erblickt: so „sauber und niedlich“ sieht alles aus. Erst allmählich lernt der Flieger „sehen“, d.h. Wichtiges mit raschem geschulten Blick erfassen; Zeit zum behaglichen Beschauen hat er nicht, namentlich heute nicht mehr, wo die Gefahren für ihn von der Erde aus und in der Luft sich vervielfacht haben.¹⁴


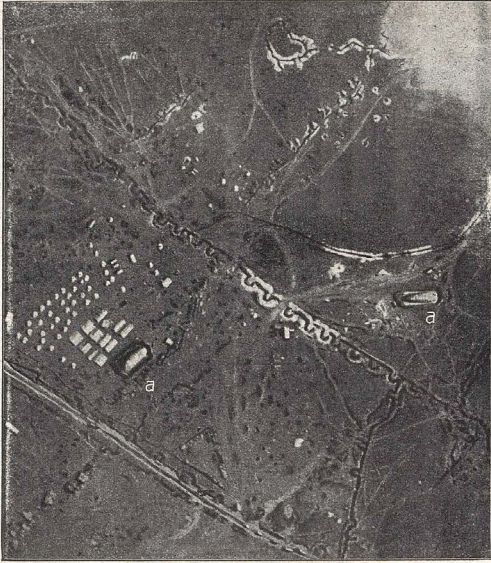
The first words of the piece say: “Seeing is a matter of practice!” A trained aviator gradually learns how to really “see” the landscape, grasping the important features of the land with a quick gaze. Where the ordinary person notices only a landscape, the aerial observer, also thanks to photo devices, discerns a multitude of noticeable details, which offer many tactical possibilities.¹⁵ Aerial photographs supported this ability to “see all” at a glance. Making a fragment of time eternal, photography presented a landscape that could be amply explored even at a later stage; but only if the viewer held the key to interpret

¹⁴ My translation: “Seeing is a matter of practice! The untrained eye carelessly overlooks what is of the most significant importance, of the greatest attraction, for the artist’s eye. The layman sees a graceful landscape, the general staff officer beholds a wealth of tactical possibilities. Whoever flies for the first time will be delighted by the world seen from above: everything looks so ‘clean and cute.’ Only gradually does the pilot learn to ‘see,’ i.e., to grasp important things with a quick trained eye; he does not have time for comfortable contemplation, especially today, when the dangers for him from the ground and in the air have multiplied.” (*Berliner Illustrierte Zeitung* 1917b, 130)

¹⁵ Cf. original: “Wo er [der Laie] nur ‚Landschaft‘ gesehen hat, sind diesem eine Menge wichtiger Einzelheiten aufgefallen.” (ibid., 131)

Berliner Illustrirte Zeitung. Nr. 10

130
131





Flieger-Aufnahme des Bahnhofes Sorodzieja: Dieser fast unbekannte Bahnhof wurde vor Beginn einer russischen Offensive außerordentlich erweitert. Die deutsche Flieger-Aufnahme läßt erkennen: a und b große Hallen und Schuppen; d neue Ausladebahnhöfe; f Feldbäckereien.

Was der Flieger sieht

Das Kampfgebiet südlich Montanban, aus 3000 Meter Höhe aufgenommen. Die deutsche Flieger-Aufnahme zeigt zwischen verlassenen Schützengraben und Infanteriestellungen 'eindliche' Truppsenteile sowie (bei a) zwei Festballons die im „Windbüchse“ liegen.

Gehen ist Übungssache! Achlos überfliehet das nicht geschulte Auge, was für das Künstlerauge von größter Wichtigkeit, von härtestem Reiz ist. Der Laie sieht eine anmutige Landschaft, der Generalstabsoffizier erblickt darin eine Fülle taktischer Möglichkeiten. Wer zum ersten Male fliegt, wird seine Freude haben an der Welt wie er sie von oben erblickt: so „sauber und niedlich“ sieht alles aus. Erst allmählich lernt der Flieger „sehen“, d. h. Wichtiges mit raschem geschulten Blick erfassen; Zeit zum behaglichen Beschaun hat er nicht, namentlich heute nicht mehr, wo die Gefahren für ihn von der Erde aus und in der Luft sich vervielfacht haben. Während des Fluges überm Feind arbeitet der Beobachter in angespanntester Tätigkeit; er hat im wahren Sinne des Wortes alle Hände voll zu tun. Er gibt nach der Karte die Flugrichtung an, macht Aufnahmen der wichtigen Geländeteile, notiert seine Wahrnehmungen, bedient die Bombenabwurfvorrichtung und muß dabei jeden Augenblick bereit sein, einen Luftkampf aufzunehmen. Unendlich anstrengend ist dies alles, auch das lange Stehen — und stehen muß der Beobachter fast während der ganzen Flugdauer überm Feind — ermüdet sehr, weil ständig ein enormer Luftdruck gegen den Oberkörper liegt. Nerven darf der Flieger gar nicht haben, plötzliche Schrapnelle in nächster Nähe dürfen ihn in der Arbeit nicht stören; der Auftrag muß erfüllt werden; und läßt der Beobachter sich durch solche



Bahnhof Novosyolovskaya, Rußland.
Die Flieger-Aufnahme läßt jeden einzelnen Wagen der vielen auf den Rangiergleisen stehenden Güterzüge erkennen.

„Neußerlichkeiten“ ablenken, so bedeutet das nur, daß er um so länger im feindlichen Abwehrfeuer bleiben muß, wodurch er wieder unnützig die Nerven seines Führers verbraucht. Was muß nun der Beobachter sehen? Alles, was irgendwie wichtig ist, um daraus Schlüsse auf die Absichten und die Tätigkeit des Feindes zu ziehen. Da ist zuerst die Front selbst. Bis auf kleinste Grabenzipfelchen muß er die feindliche Stellung genau erkunden und sie durch aneinandergereihte Lichtbilder festlegen. Für eigene Infanterieunternehmungen ist es von größter Wichtigkeit, genau im feindlichen Grabensystem Bescheid zu wissen. Dann kommt die feindliche Artillerie! Eins der schwierigsten Gebiete. Nur sehr geübte Beobachter können mit Sicherheit eine besetzte Batteriestellung von einer unbefetzten, eine Scheinstellung von einer wirklichen unterscheiden. Am leichtesten ist eine Batterie während des Schießens am Mündungsfeuer zu erkennen, aber bei Annäherung des Fliegers wird eben jedes Schießen (ausgenommen das der Fliegerabwehrgeschütze) abgebrochen. Da heißt es denn, mit unfähiger Geduld nach den äußeren Umständen seine Feststellungen treffen; auch hier wird natürlich jede Stellung photographiert. Es klingt so einfach: „wird photographiert“. Der photographische Apparat wiegt etwa 20 Pfund und muß außerhalb des Stumpfes senkrecht und möglichst ruhig gehalten werden, damit die Aufnahme nicht „verwackelt“ wird. Ein Aufstützen auf die Bordwand

FIGURE 3.10: “What the aviator sees” (Berliner Illustrirte Zeitung 1917b, 130).

space from above. Military methods of photo-reconnaissance produced therefore new aesthetic experiences, completely transforming the way of seeing and interpreting the landscape. In fact, newspaper articles devoted to vertical aerial photography continued to be published also after the end of the conflict, and readers were even stimulated (through sort of games) to discern strange objects represented from above. Again, the *BIZ* in December 1919 proposed a prize competition asking the public: “Die Welt von oben gesehen. Was stellen diese 6 Bilder dar?” (Seeing the world from above. What do these 6 images represent?) (fig. 3.11). A game that nowadays seems pretty easy to solve, it must not have been so obvious in 1919 since the first prize was 300 marks (*Berliner Illustrierte Zeitung* 1919, 544).


The ability to fly, which for centuries had maintained the fascinating aura of a dream, was completely accomplished during the war. The efficient combination of airplane and photo camera produced a variety of visual material, which for quantity and heterogeneity defined a turning point in the German visual culture. If the subject of the pictures published in mass illustrated magazines mutated from picturesque landscapes to the primordial element of *terrain-soil-ground*, the most radical transformation in the canons of vision was represented by the vertical aerial vista, which—changing the point of view—defined a new topography and a different paradigm in understanding the landscape. Therefore, aerial photography, which was improved for military necessity and mainly spread for propagandistic reasons, ended up becoming one of the most transformative elements able to overturn conventional ways of observing and absorbing the world, representing a fundamental catalyst for the visual culture in the following period of the Weimar Republic.

Berliner Illustrirte Zeitung.

544 Nr. 52

Weihnachts-Preisrätsel

„Die Welt von oben gesehen“
Was stellen diese 6 Bilder dar?



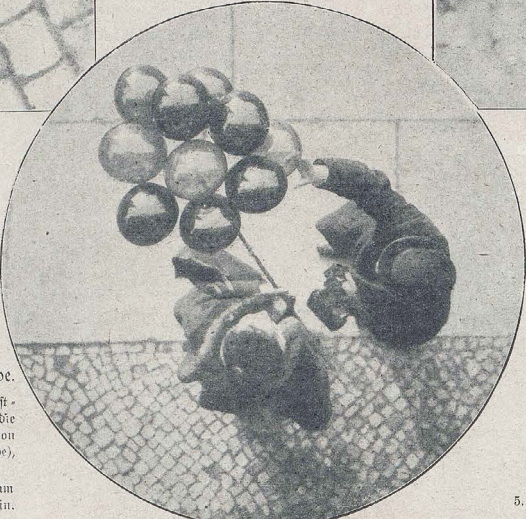
Die Welt von oben gesehen. Was stellen diese Photographien dar? Bild 1.

aus. Können unsere Leser die hier abgebildeten photographischen Aufnahmen enträtseln? Auf die richtige Lösung dieser Preisaufgabe, also auf die Angabe, was jedes dieser sechs Bilder darstellt, legen wir Preise aus von zusammen

1000 Mark.

Bedingungen zur Preisaufgabe.

1. Die Lösungen müssen auf Postkarten geschrieben sein und die Adresse tragen: An die Redaktion der „Illustrirten“ (Preisaufgabe), Berlin SW, Kochstraße 22/26.
2. Alle Lösungen müssen spätestens am 20. Januar in unserem Besitz sein. Das Ergebnis wird in einer der darauffolgenden Nummern veröffentlicht werden.



Die Welt von oben gesehen.
Ein Beispiel: Photographische Aufnahme einer Bekäuflerin von Kinderballons.

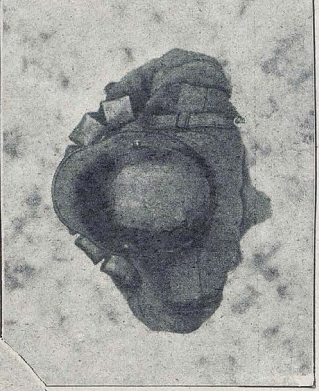


Bild 2.

3. Für die richtige Lösung legen wir einen 1. Preis von 300 Mark, einen 2. Preis von 200 Mk., einen 3. Preis von 100 Mk. und nach Bedarf bis acht Trostpreise von je 50 Mk. aus.
4. Gehen mehrere richtige Lösungen ein, so werden die Preisträger durch das Los bestimmt, derauf, daß aus allen richtigen Lösungen der zuerst Gezogene den Hauptpreis, der Zweite den 2. Preis, der Dritte Gezogene den 3. Preis und die folgenden 8 Läufer die Trostpreise erhalten. Gehen mehr richtige Lösungen ein, so müssen die durch das Los nicht Gezogenen sich auf mehr Glück bei einem späteren Preisauschreiben verträufen.
5. Die einmal getroffene Entscheidung der Redaktion, der sich die Einsender durch ihre Beteiligung unterwerfen, ist auf alle Fälle endgültig.

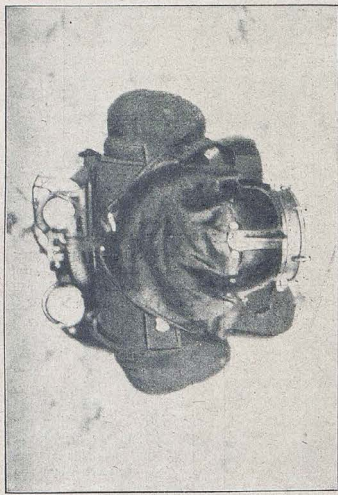


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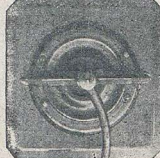


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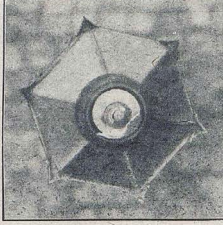


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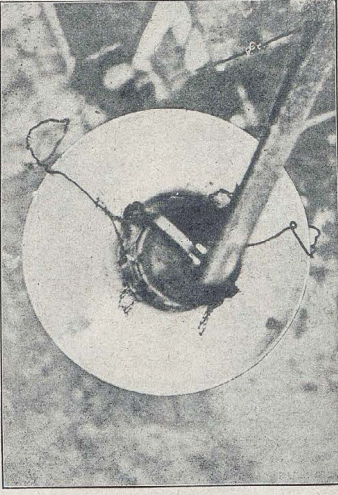


Bild 6.

FIGURE 3.11: Prize competition “Seeing the world from above. What do these 6 images represent?” (Berliner Illustrirte Zeitung 1919, 544)

3.2 Abstract, Sectioned, Measured, and Analyzed Land

Leafing through the 1914 magazine *Die große Zeit*¹⁶ in the Bavarian State Library, on page 247, a weird cut section of what seems a bigger illustrated map appeared printed on glossy paper. Unlike the thin matte pages, which mainly composed the issues at that time, glossy paper was usually devoted to important images that needed to be printed full-page at high quality. However, the fragment of the map, drowned by Zeno Diemer and representing the combat zone in the Forest of Argonne and Verdun, has been mistakenly flipped (with the names of cities that resemble Leonardo da Vinci's writings). It occupies only the upper side of the page: slightly above the mid-vertical, the map is diagonally and oddly cut (fig. 3.12).

Probably only a printing mistake, this illustration contributes to describing new modalities of recording territories and reproducing landscape representations in the press during warfare. Innovative photo-optical devices allowed the military to record specific sections of land, which were sources of intelligence; likewise, new photo-mechanical methods employed in publishing houses easily allowed to edit and display only fragments of these images. Both practices (recording and publishing *portions* of territories) determined a novel way of understanding the landscape, which emerged from the WWI military context.

Rather than focusing on the subjects of WWI aerial pictures, this section analyzes military methods of representing and recording land, which also affected the way of reproducing the landscape in the German mass media, particularly in illustrated magazines, catalogs, and exhibitions. However, to define the transformative impact of the WWI approaches, it is necessary to compare these militarized landscapes with previous visual schemes. Thus, first, this section introduces nineteenth-century visual trends in representing space, which emerged from specific disciplines (art history, geography, and geology) as well as from popular visual culture. Second, it compares the prewar landscape depictions, which followed the principles of harmonious unity and immersive totality, with the fragmentation of WWI terrains produced and disseminated thanks to military aerial photography.

¹⁶ During wartime, the publishing house Ullstein, which also owned the famous *Berliner Illustrierte Zeitung* (*BIZ*), circulated *Die große Zeit*, advertising it as an illustrated history of the war (*Illustrierte Kriegsgeschichte*). See section 1.2 of this dissertation.

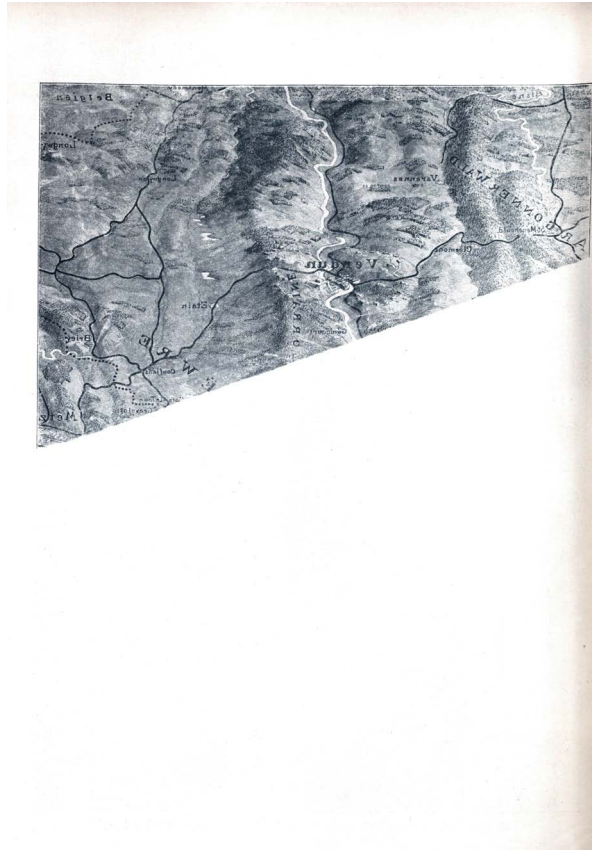


FIGURE 3.12: A fragment of Zeno Diemer's map (*Berliner Illustrierte Zeitung* 1914c, 248).

Before the conflict, the panorama was the most popular representation of an elevated landscape. Introduced in England at the end of the eighteenth century by Robert Barker, it was originally an enormous horizontal painting mounted on the inner wall of a cylindrical building (rotunda). The 360-degree representation of a landscape or a cityscape, which could exceed one hundred meters in circumference and ten meters in height, surrounded the visitors standing on a platform at the center of the building. Observers were immersed in an “illusory environment” (fig. 3.13).

At the beginning of the twentieth century, in Europe and North America, numerous variations of this popular visual experience—which media scholars consider one of the first mass media (Oettermann 1980)—included dioramas, pleoramas, moving panoramas, among many other enormous size visual artefacts.¹⁷ Particularly popular in German-speaking countries were also smaller panoramic views called cosmoramas, or “Zimmerreisen.” Satisfying the middle class’ desire to discover foreign countries (which coincided with the beginning of mass tourism), travel painters specialized in natural or urban panoramic landscapes from all over the world, combining the realism of topography with

¹⁷ See Plessen (1993), Buddemeier (1975), Bordini (2009), Comment (2000), and Huhtamo (2013).

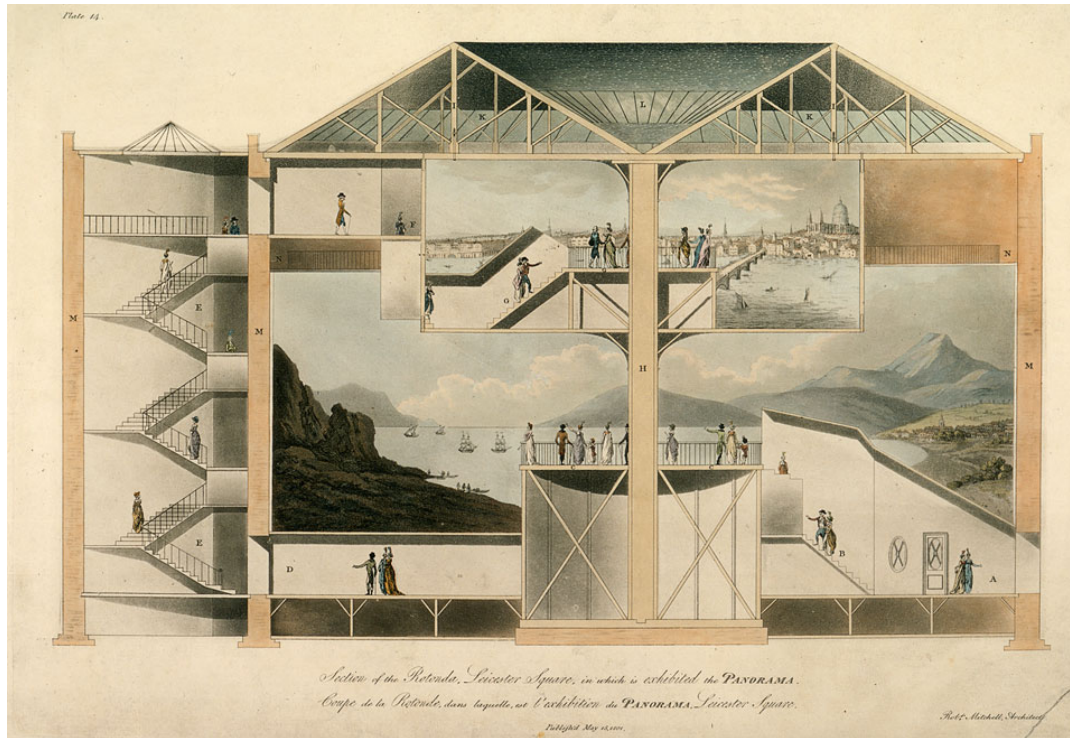


FIGURE 3.13: Section of the Rotunda in Leicester Square (London) designed by Robert Mitchell that housed Robert Barker's panoramic paintings (1801).

the magic atmospheres of oil painting, therefore creating a new artistic genre. These paintings were often exhibited behind a partition wall. Peering at the illuminated paintings from a hole in the wall, a world in miniature appeared.¹⁸

Regardless of diverse sizes, shapes, and techniques, the mentioned optical experiences shared the common idea of immersive, coherent, complete, and global view, intrinsically embodied in the Greek roots of the word panorama: *pan* (all) and *horama* (sight). Without underestimating the diverse peculiarities of the multiple forms of the panorama, all these manners of representing space offered an “all-embracing” view, thanks to wide compositions and multiple and elevated vantage points on which the scenes were constructed and observed. These features let the eye of the observer move within the panoramic representation, traveling a great illusionary distance.

Together with the multi-viewpoints painted panoramas, two other ways of representing landscape emerged from the nineteenth century: the monocular vision of photography and the binocular vision of stereoscopy (L. Smith 1989). In particular, landscape photography perfectly responded to the needs of the nascent tourism industry. Photographs sold as souvenirs in Imperial Germany

¹⁸ See the exhibition *Sattlers Kosmorama. Sattlers Kosmorama. Eine Weltreise von Bild zu Bild* at the Wien Museum Hermesvilla (Storch 2013).

mainly represented the Alps, views along the rivers Rhine, Elbe, and Danube, city landmarks such as the Cologne cathedral and the Heidelberg Castle, and foreign lands.

Aesthetic canons that evolved within the Romantic era—like the exotic, the sublime, the beautiful, and the picturesque—also influenced the photographed landscapes circulating through the German mass media at the turn of the century (B. Smith 1985; Copley and Garside 1994; Galitz 2000). Until the outbreak of WWI, mass-market photography primarily followed pictorial principles in representing the landscape.¹⁹ Natural sceneries lacking any signs of industrial modernity, pleasing pastoral scenes, and harmonious cityscapes became popular within intellectual circles, landscape preservation organizations, and tourist associations as well as among the urban audiences.²⁰ Postcards, posters, and other advertising material helped the spread of idyllic landscapes, which particularly appeared in the “Mahlerische Reisen” (picturesque travels): richly illustrated volumes that described the best itinerary and the worth to see places of overland travels (Scaramellini 1996).

Grasping nature in a single glance, and therefore in a uniform and clear picture, became an artistic trend as can be seen by the popularization of the Claude mirror at the end of the eighteenth century. Painters, tourists, and poets used this convex-tinted piece of glass (usually round and black) as a portable object to analyze and sketch the landscape during their tours. Reducing the intensity of colors and the contrast between shadows and lights of the “real” scene, the “landscape mirror” was a filter through which one looked at nature to achieve the principle of unity.²¹ As the painter and art critic Roger de Piles suggested, the convex mirror improved “the unity of the object in vision,” made “together one whole,” and helped the painters to see the objects “with one glance of the eye” (Piles 1708, 67). William Gilpin, the English painter who defined the concept of the picturesque, added that the mirror allowed to “survey the whole under one focus,” transposing reality into a harmonic composition (Gilpin 1791, 227, fig. 3.14).

Reflective quality, format, and harmonic composition of the black mirror were qualities that the photo historian Geoffrey Batchen also observes in the first daguerreotypes. Oval-shaped photographs of landscapes, or natural and urban scenes gently framed with rounded corners, regularly appeared in the

¹⁹ For the relation between photography and painting see Scharf (1974).

²⁰ For nature preservation organizations in Wilhelmine Germany, see Lekan (2004).

²¹ To achieve this result, the mirror reversed the image, and the user turned his/her back to the landscape in order to contemplate it. See Maillet (2004).



FIGURE 3.14: Blackened mirror glass (Claude glass).

German print media until the first year of war: these designs were probably an inheritance of the formats of the Claude glasses (fig. 3.15). Thus, nineteenth-century landscape photography was inscribed in a visual tradition that either followed the principle of *unity* of the Claude glass or the *totality* of the panorama. Within these two visual constructs, photographers attempted to reach a unitary effect (an attribute of the convex glass) through an atmospheric pictorial style, while the detailed definition of the wide format photography realized the “all-embracing” view of the panorama (Robinson 1969; Emerson 2014).

In Germany, works of the so-called pictorial photographers, such as the brothers Theodor and Oskar Hofmeister and Heinrich Kühn,²² proposed dreamy atmospheres of rural landscapes, which enormously circulated in amateur volumes and postcards. The soft focus and the tonal range of colors, obtained through the platinum and the gum printing process (sometimes also using the autochrome), gave a sense of nostalgia for lost landscapes that visually embodied the concept of *Heimat* (homeland), the deep relationship

²² At the beginning of the 20th, the brothers Theodor and Oskar Hofmeister established the “Hamburger Schule der Kunstfotografie,” starting pictorial photography in Germany. The two amateur photographers, together with Heinrich Kühn, later formed *Das Praesidium* and exhibited their works at the Kunsthalle in Hamburg (Steinorth 1993).



FIGURE 3.15: Example of an oval-shaped photograph showing a group of houses on the river Neckar. (*Münchener Illustrierte Zeitung* 1917c, 34)

between an individual and a territory able to shape both single and collective identity.²³

Panoramic cameras were soon introduced after the popularization of photography. The rotating *Megaskop-Kamera*, invented by Friedrich von Martens (1845), produced the first photographic panorama using curved daguerreotype plates. Long images composed of multiple photographs soon overcame the daguerreotype system. At first, they were obtained through the wet-plate collodion method and then from flexible films. These views were not only spectacles for the middle class but served to document and advertise the vast dimension of specific sites. For instance, the Krupp company, the largest German steel producer, advertised the extension of the Essen factory site at the 1862 London World Fair through panoramic photographs (*Gussstahl Fabrik Krupp*

²³ For *Heimat* and visual culture, see the book series *Die Blaue Bücher*, especially the volume *Die Schöne Heimat. Bilder aus Deutschland* (Langewiesche 1953). See also Applegate (1990), Blicke (2004), Von Moltke (2005), Boa and Palfreyman (2000), and Cronin (2015).

(*Panorama*) [ca. 1861]).

Another photographic mass phenomenon that shaped the visual experience of the German-speaking urban population at the beginning of the twentieth century was the *Kaiserpanorama* (Imperial Panorama).²⁴ Named after the Kaiser-Passagen on Friedrichstraße in Berlin, where one of the first “kaiserpanoramas” was installed, the circular rotating device showed to circa twenty-five spectators a sequence of fifty stereoscopic images. Seating at a numbered viewing station, each person peered at a viewfinder from which one could see the series of three-dimensional scenes through two rear-illuminated glasses. The principal subjects of these stereoscopic slides were urban scenes, political events, and national landscapes or foreign lands. If the dynamic movement of the sequence made the popularity of this optical entertainment (Peselmann 2016, 70–88), eminent reporters, like Walter Benjamin, Franz Kafka, and Peter Rosegger, described the atmospheres proposed in the Kaiserpanorama as “magic,” “calm,” and “perfect.”²⁵ In *Berlin Childhood Around 1900*, Benjamin recounted the splendors of these stereoscopic scenes, which were also remarked in his work *Paris, the Capital of the Nineteenth Century* (1935). Here Benjamin associated the Daguerre’s panoramas of the beginning of the nineteenth century with the Imperial Panoramas, internationally widespread circa one hundred years later, describing these two forms of entertainment as “aquariums of the distance and the past” (*Aquarien der Ferne und Vergangenheit*) (Benjamin 1972, 240; 2020, 20).

Following this comparison, I argue that the immersive view of the first panoramas and the unitary and rounded view of the Claude glass blended together in the three-dimensional effect of the Kaiserpanorama. Although the standard format of the two stereoscopic images (necessary to give the illusion of depth) was nearly a square, the deep immersion of the observer in the perspectival “planes” of the stereoscopic photographs guaranteed both unity and

²⁴ Although the technology of stereoscopy was already a form of entertainment, it became a mass phenomenon with the Kaiserpanorama. Watching a sequence of stereoscopic images cost Twenty Pfennigs for adults and ten for children. See Oettermann (1980) and Gaa and Krüger (1984).

²⁵ For the *Kaiserpanorama* in literature, see (D. Lorenz 2012). The adjectives “magic,” “calm,” and “perfect” refer to the following passages written by Walter Benjamin, Franz Kafka, and Peter Rosegger (my italics). In the long version of the piece *Kaiserpanorama*, Benjamin writes: “Als ich zum erstenmal dort eintrat, war die Zeit der zierlichsten Veduten längst vorbei. Der Zauber aber, dessen letztes Publikum die Kinder waren, hatte nichts verloren” (Benjamin 1972, 240). “[. . .] sie [die Sterobilder] dem Blick die Ruhe der Wirklichkeit lassen. Der Kinematograph gibt dem Angeschauten die Unruhe der Bewegung, die Ruhe des Blickes scheint wichtiger” (Kafka 1994; D. Lorenz 2012, 239). “Darum sind im Panorama die Landschaften, die Bauten und monumentalen Denkmäler *am vollkommensten* etc.” (Fuhrmann 1909, 99–100).

totality of vision. The constant change of the scene contributed to the make this effect persist in time. From this point of view, the Kaiserpanorama was the culmination of a process that brought the landscape to be represented in painting as well as in photography as a unitary, harmonic, total vista.

The transition from the ways of representing the landscape described so far to new modalities spread in WWI can be illustrated through the artistic production of the painter Michael Zeno Diemer, the author of the illustration that starts this chapter. Born in Munich, Diemer (1867-1939) was a painter who specialized in landscapes. His pictorial representations of natural, urban, and industrial spaces included a large variety of subjects: mountains, seas, lakes, architecture, and engineering projects. Focusing on geographical, historical, and technological themes, his landscape production appeared on postcards, posters, school maps, newspapers, and magazines as well as in museums of science and technology and in panorama rotunda buildings (the panoramic painting *Battles of Bergisel* in Innsbruck still exists). He realized paintings and drawings for educational, advertising, and propagandistic purposes, depending on job assignments. Diemer always opposed a naturalistic style to the abstraction of modernism, the latter representing a path many artists embraced responding to the objectivity of photography. Thus, during the conflict, his artistic practice particularly suited the military requests.²⁶

In wartime, the primary sources of Diemer's income were "pictorial topographic maps" for German newspapers, such as the *Berliner-* and *Leipziger Illustrirte Zeitung*. The handmade relief maps combined scientific elements of cartography (legend, lettering) with the use of a soft *chiaroscuro* to create relief (fig. 3.16). The terrains were designed as seen from a bird's-eye view, and the maps functioned as a visual tool to illustrate different theaters of war to the population. Although maps were a well-established subject in the representation of space, this genre did not often appear in German mass media, especially illustrated in magazines and books, in the years before WWI. An exception was the map production that accompanied tourists on their excursions. The *Rheinpanorama* (or Relief-Panorama) was probably the most popular of this kind, consisting of a parallel projection illustrating the course of the river Rhine. These maps were distributed to tourists during the ship itinerary (Steckner 1993). To cover the river's route—a well-known itinerary that went from Mainz to Cologne—the long panoramas were printed on fanfold paper

²⁶ For Zeno Diemer's landscape production see Werner and Baumgärtner (2014).



FIGURE 3.16: One of Zeno Diemer's relief maps published in illustrated magazines (Diemer 1915, 219).

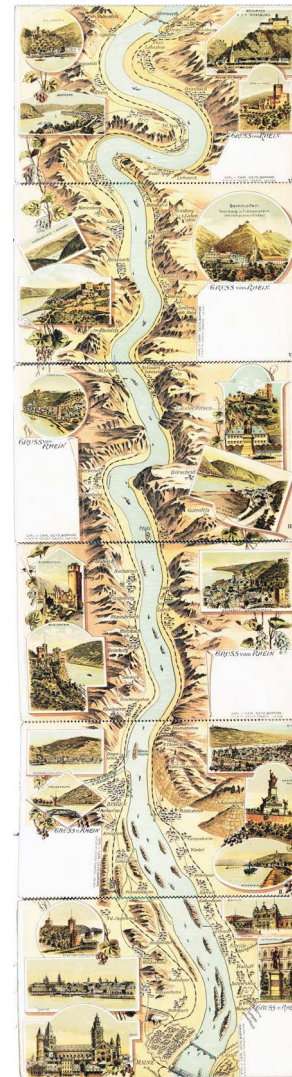


FIGURE 3.17: Detail of the *Rhein-Panorama von Mainz bis Köln* (postcards, 1901).

(fig. 3.17). Unlike *Rheinpanorama*, Diemer's drawings had superior photorealistic qualities, but they displayed only small sections of land (targets) that could fit the pages of newspapers. The presence of explanatory lettering on the drawings, which reminds cartography, together with the naturalistic effect of a pictorial three-dimensionality resulted both objective and engaging.

After an introductory phase in which these handmade illustrative maps recurred in German publications, newspapers, and magazines opted for aerial photography as a "more objective" tool to portray the war landscape. In this second stage, however, unitary, harmonic, and total vistas disappeared, as well as any pictorial or tonal effects. A fragmentation of territories, displayed

through pieces of photographic elevations and plans,²⁷ increasingly replaced the naturalistic representation of the landscape “as a whole.” The distant “all-seeing” photographic view that emerged in WWI was, in fact, completely different from the “all-embracing” concept of the nineteenth-century panorama. The powerful view of aerial photo-reconnaissance, which I introduced in the previous parts of this chapter, *controlled totality through sections*. If the panorama of the 19th-century induced to the “flânerie of gaze,”²⁸ while the landscapes originated from the idea of Claude mirror inspired a circular movement of the eyes, aerial landscapes of WWI caught the eye of the reader in a progressive straight motion towards the details of the photograph in a continuous adjustment to different scales. The fixed view in-depth, in a sort of microscopic enlargement, was only possible by cutting the land into small portions. Moreover, landscape representations that the German population absorbed during the war did not emerge from artistic or intellectual trends but were military aerial exploration that followed scientific methods of surveying and mapping. These scientific techniques, which before the war would have circulated only among the experts of specific disciplines (geodesy, geology, and cartography), were shared in the print media, determining a new understanding of space that influenced society at large.

Cartography has long assisted military power. In the ancient military treatise, *The Art of War*, the Chinese strategist Sun Tzu reports: “The elements of the art of war are first, measurement of space; second, estimation of quantities; third, calculations; fourth, comparisons; and fifth, chances of victory” (cf. Bousquet 2018, 119–22). The measurement of space often recurs as an essential principle of the military practice. In the sixteenth century, for instance, the Sammarinese architect Giovanni Battista Belluzzi explained in his book about the design of fortresses that he favored axonometry over perspective as a drawing tool because “we need to see the thing whole, distinct, clear; one can find the truth precisely with compasses” (Belici 1598, 1–6). If military land survey has always demanded measurability, precision, and comparability, the extension and rapid transformation of the battlefield in WWI necessitated even more cartographic investigation and accuracy. Ground survey and aerial observation acquired a high tactical value in WWI, and they served the artillery to aim at targets beyond the line of sight. This way of making war, which Roy MacLeod

²⁷ “Elevation” and “Plan” are terms used in architectural drawing.

²⁸ Among many texts concerning the figure of the *Flâneur*, see Huart et al. (1841), Benjamin (2006), Neumeyer (1999), and Butzlaff (2015).

called “a new kind of ‘information warfare,’” found in the camera an essential support in mapping and intelligence practices (MacLeod 2000, 43–45).

Turning an object into a photograph in order to deduce topographical data was the ambition of photogrammetry, which emerged as a scientific method in the second half of the 19th century. The German construction engineer Albrecht Meydenbauer coined the term photogrammetry for architectural surveys, but it soon became clear that photo-topography would have been incredibly useful for cartographers, geologists, and the militaries.²⁹ Mountains were the first elements in the landscape to be studied through this alternative method due to their morphology and extension that made them “difficult terrains” (Rosalba 1881, 87). At the turn of the century, the first experiments of aerial photogrammetry were pioneered by the mathematician Sebastian Finsterwalder and the geodesist Theodor Scheimpflug (Siemer 2007).

Errors determined by the inadequate quality of the lenses (chromatic aberration and optical distortion) still occurred in early photogrammetry and were improved in the course of the 20th century, thanks also to the surveying developments in WWI. However, specific aspects of this first experimentation phase clarify the link between the fragmentation of WWI landscape representations and this early surveying material.

Looking at a photogrammetric image had little to do with looking at a regular photo. Standard conventions of landscape aesthetics like composition, aerial perspective, or chiaroscuro—all habitually applied by landscape photographers since the 1850s—played no role whatsoever in photogrammetry. Whatever aesthetic qualities contemporaries might have seen in photogrammetric images—they were merely the “waste products” of purely utilitarian aims: measurability, precision, and comparability. (von Brevern 2011)

Following the analysis of the art historian Jan von Brevern, in the article *Fototopografia: The “Futures Past” of Surveying*, the gap between popular landscapes that followed the principle of *harmonious unity and immersive totality* and WWI military fragmentation of land (mass reproduced for the first time) is even more explicit. The utilitarian aim of photo-topography, realized through measurability, precision, and comparability, corresponded to Sun Tzu’s features of the art of war. Photos for scientific work, and later for military purposes, had the potentiality to construct and deconstruct space. Moreover, the

²⁹ The famous American photographer Timothy H. O’Sullivan joined several government expeditions to the West, accompanying the geologist Clarence King in 1867 and the cartographer George M. Wheeler in 1871. See Snyder (1981) and Kelsey (2007).

photographs that circulated in the German print media during warfare suggested the transformation of the landscape into a graphic model, a usable map. Nevertheless, the term “mechanical photography,” which by the 1860s was being used in opposition to aesthetic photography, was for the first time propagandized as a new canon to represent and understand the landscape (Newhall 1982, 105).

The filmmaker has even ventured into the realm of air. In front of the viewer’s eyes, magnificent landscape representations pass by and are presented to moviegoers.³⁰

This passage from the article “Der fliegende Kino,” reported in the magazine *Die Woche* in early November 1918, seems to describe one of the propaganda short silent movies that circulated in the form of newsreel during the conflict. Instead of showing frames of a documentary film, however, the pictures illustrating the text are pieces of photographic maps (fig. 3.18). These black-and-white maps present unusual vertical or horizontal lines passing through the entire photographic surface, which makes the pictures hard to interpret. Although the photomaps do not report any legends, short captions clarify the content of the images: German and enemy lines, rail stations and tracks, airplane deposits, and air facilities. The text explains that photography and cinema documented not only historical events, but they were also used to support military reconnaissance and mapping missions in WWI. In short, the article showed the German readers the same utilitarian aim already embodied in early photogrammetry. In doing so, however, the author, Lieutenant Gehrts, used a propagandistic and nationalistic tone: “We own this automatic imaging device in our ‘Reihenbildner,’ the flying cinematograph, with which in a single flight countless square kilometers can be captured in one photo.”³¹ The text focused on one of the most important photo-optical inventions of WWI Germany: the *Reihenbildner*, a serial aerial camera for operational reconnaissance and cartography. This camera solved the problem of ‘straightening’ and scaling oblique views with specific devices called “transformers” (*Umbildner*) in order to obtain photographic maps without complex arithmetic and drawing operations. The term “flying cinematograph” (*Der fliegende Kino*) refers

³⁰ My translation; original: “Selbst ins Reich der Lüfte hat sich der Filmer gewagt. Vor den Augen des Beschauers ziehen herrliche Landschaftsbilder vorüber und werden dem Besucher des Kinotheaters übermittelt.” (Gehrts 1918, 1092)

³¹ My translation; original: “Dieses selbsttätige Bildgerät besitzen wir in unserem ‘Reihenbildner’, dem fliegenden Kino, mit dem auf einem Fluge unzählige Quadratkilometer in einem Lichtbild aufgenommen werden können.” (ibid., 1092)

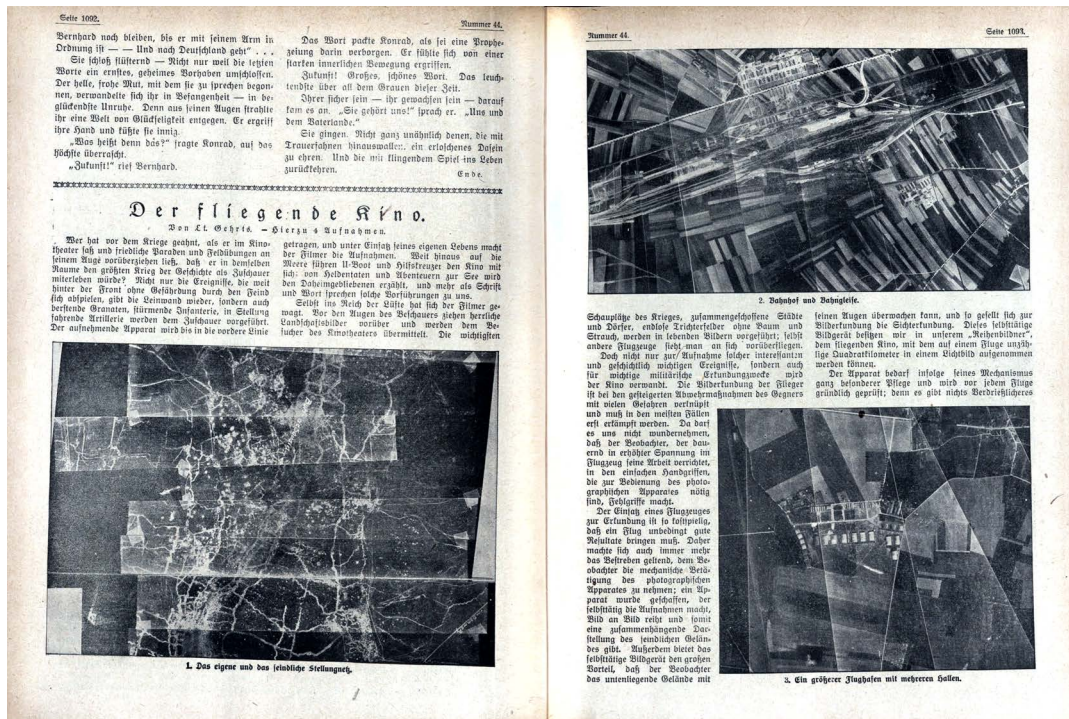


FIGURE 3.18: Pages of *Die Woche's* article “Der fliegende Kino” (Gehrts 1918, 1092–93).

to the fact that the *Reihenbildner* was equipped with a standard cinema film (instead of glass plates), following the same principle of a movie camera. In 1915, the German Army High Command commissioned the inventor and film pioneer Oskar Messter to design an automatic camera able to take a rapid sequence of vertical aerial pictures.³² Messter proposed a film camera driven by a small air propeller—with a negative size of about 5×24 cm, an objective Zeiss-Tessar, a focal length of 250 mm, and a single film roll of 60 meters. The camera was positioned in the airplane, with the lens facing the terrain through a hole in the fuselage. Placing the film 90 degrees transversely to the flight direction, the *Reihenbildner* could take a sequence of photographs that once printed needed to be rearranged in line (*mosaikartig*) in order to obtain an overall map of an area (Wecker [ca. 1916], 18). Through this technology, in the course of a single flight from 2500 meters in height, pilots filmed a land surface that measured 60-by-2.5 kilometers at the scale of conventional topographic maps. By the end of the war, according to the German Army's processing center Heeres-Abwicklungsstelle, a total area of 7.202.935 square kilometers had been photographed using 933.000 m film of 241 *Reihenbildner*

³² For the work of Oskar Messter and military applications of cinematography, see Messter (1936), Karlson (1941), Narath (1967), Kessler et al. (1994), Koerber (1994), and Matthias (2008).

cameras (fig. 3.19).³³

The terrain sectioned in different shots—the German aviation recorded the land in long strips (*Reihenbildstreifen*), while the Allies made square-shaped pieces—was constantly reconstructed in “mosaic maps” (in German military terminology also called *Lagenbilder*). Every mosaic, composed by photographic tesserae, was then rephotographed and classified with all the elements necessary to identify the section of terrain recorded and the context in which the mission took place: number of flight, date, altitude, focal length, scale, observer, pilot, aviation department, etc. A political map, which always accompanied the photographic mosaic, reported the route of the airplane and to which sector of this itinerary corresponded the photomap.

Overlapping pictures obtained through the *Reihenbildner* were not only employed for mapping, but they also served as stereoscopic pairs. The flying heights prevented both the observer from perceiving and the camera from reproducing depth, with the result that the subjects of vertical aerial photographs seemed flat. Indeed, vertical aerial perspective has been compared to a graphic and abstract model that could only be interpreted after special training and through a stereoscope. Unlike the stereo photographs of *Kaiserpanorama*—which were taken with a dual-lens device, from two separated standpoints, reproducing the distance between the human eyes—the aerial stereo pairs were recorded by an automatic single-lens camera taking a rapid sequence of pictures. Considering the relation between altitude, shutter speed, and plane speed, the focal points of the two pictures exceeded the interpupillary distance. Consequently, when analyzed through the interpreter’s stereoscope, the military stereoscopic images emphasized (unnaturally exaggerating) small details and highlighted volumes. An effect that favored the interpretation of aerial photographs (Saint-Amour 2003). Therefore, the territory cut into photographic sections, and rebuilt in its extension through mosaic maps, could also gain an exaggerated three-dimensionality by means of stereopairs.

Decomposing and recomposing segments of photographs to obtain information regarding a piece of land became an ordinary military activity. Photographs allowed to scale, compare, and combine pieces of terrain that could be measured and scrutinized in detail (Latour 1988, 27). The entirety of these photomaps was always a reconstructed fragmentation of *time frames* and *space frames*. This process consented to dissect the terrain and simultaneously have a comprehensive view of a wide area. As Paul K. Saint-Amour has described:

³³ See Karlson (1941, 139). Cf. also Vogler (2020, 127–29) and Jäger (2014, 32–33; 2007, 280, 292–95).



FIGURE 3.19: German photographic map (Reihenbild) of Venice contained in a WWI aerial reconnaissance weekly report (Kommandeur der Flieger 14 1917).

“[...] the photomosaic offers the distinct vertigo of temporal parallax, one arising from the experience of counterfeiting a spatially self-identical landscape from a constellation of segregated moments. A photomosaic is perforce a mosaic of temporalities” (Saint-Amour 2011, 246). This spatial reconstruction of temporalities, namely reconnaissance photomaps, also served as propaganda. Thus, the public started to perceive a new variety of landscape representations, and, at the same time, people also became familiar with scientific methods used to record, interpret, and understand land.

Besides military stereoscopy that remained a secret practice within the army, parts of photomaps were also published for the general audience. The absence of relief, which made the subjects of aerial photographs appear as abstract outlines, inevitably required short interpretative explanations that helped the readers to understand the images. In the *Deutsche Kriegszeitung* (February 4, 1917), for instance, an explanatory caption accompanied three big vertical aerial photographs, occupying an entire page titled “Deutsche Flieger-Aufnahmen.”

Derselbe *Geländeausschnitt* im Oktober aufgenommen. (Man sieht deutlich die alles zerstörende Wirkung des Trommelfeuers, das das *Gelände* mit Granattrichtern übersät hat. Die Ortschaft, die auf dem ersten Bild noch mit Häuschen und Baumbestand *deutlich sichtbar* ist, ist auf der zweiten Aufnahme nur noch im Grundriss erkennbar. Wo Häuser standen, zeigt die Fliegeraufnahme hellere Flecke im *Gelände*. Man beachte auf beiden Bildern die *deutlich erkennbaren*, im Zickzack verlaufenden Infanterie-Stellungen.)³⁴

This caption describes the damage caused by artillery barrage over an area on the Western Front—the exact location of the combat zone (*Kampfgebiet*) is not specified—comparing an aerial picture taken in October 1916 with a previous shot recorded in August 1916. A third picture, taken in November 1916, displays even greater destruction (fig. 3.20). However, the interesting element in this caption is the use of specific words to describe land. The photographed “terrain section” (*Geländeausschnitt*) has become the indispensable method to

³⁴ Italics added; my translation: “The same terrain section recorded in October. One can clearly see the overall destructive impact of the artillery barrage that has sprinkled the ground with shell-holes. The village, which in the first picture is still clearly visible with houses and the stand of trees, is in the second photograph identifiable only from the outline. Where the houses once stood, the aerial photograph shows lighter spots in the terrain. In both pictures, the zigzag of the running infantry positions is evidently recognizable.” (*Deutsche Kriegszeitung* 1917, 3)



FIGURE 3.20:
Sections of
the terrain on
the Western
Front (*Deutsche
Kriegszeitung*
1917, 3).

“clearly see” (*deutlich sehen*) the specific features of an area (*Gelände*). The process of visually cutting sections of land through an automatic photographic device let the observers to unequivocally (the word “clearly,” *deutlich*, is repeated three times) see and recognize (the verbs “*sehen*” and “*erkennen*”) the signs on an area (*Gelände*) that is not anymore a unitary landscape (*Landschaft*). Therefore, these representations neither followed the principle of unity and totality nor adopted the style of the pictorial maps, which represented the geographical space through the bird’s-eye view or the parallel projection. In warfare, newspapers’ articles clarified that the overall vision (*Gesamtsicht*) presented in the form of overall picture (*Gesamtbild*) was obtained exclusively through multiple sections. These photographic fragments allowed an accurate comparison of events that had occurred in diverse times and spaces. The practice of comparing, measuring, and analyzing different photographic pieces of land was not only described through the use of a specialized vocabulary, but it visually materialized in the disposition of the pictures on the magazines’ pages. In the *Deutsche Kriegszeitung*, the composition of the three photographs reminds the architect’s analytical drawings left on a drafting table: overlapping photos positioned horizontally, vertically, and diagonally. In the white segments left empty between the pictures is inscribed the text, which submitted to the photos innovative disposition. Moreover, the three photos show the same area on

different scales, with a progressive enlargement towards the destroyed houses: a sign of the constant investigation of the territory through utilitarian photo-optical technologies. Thus, even the graphic elements that composed the pages of illustrated newspapers corresponded to the seriality, framing, and analysis developed within the military tradition.

During the conflict, innovative graphic designs suggested the frantic attempt of the military to scrutinize, fraction, dissect, measure, analyze, disguise, and recompose the territory. The engineering and industrial effort to move and redistribute tons of land on the battlefield (the earth was excavated, perforated, blown up) coincided with the practice of the press to show a new constitution of the page made of fragmentary images, drawings, maps, and charts. Graphic and graphical techniques (the first related to drawings, while the second used for graphs and diagrams) were tools integrated both into military photo interpretation and into the German print media. The analysis of land started from the photographs, extending to every element of the magazine. Graphic signs and words written on the pictures' surfaces confirmed once again the employment of photos as an analytical tool. Hatching, arrows, diagonal crosses, letters, numbers, and other symbols served to draw attention to specific targets. Controversial cases, such as the Allies' abuse of the Red Cross symbol to protect ammunition deposits and aircraft hangars (instead of military hospitals, as established by international law) were often "demonstrated" through the publication of big aerial images and their graphic legend (fig. 3.21).

Moreover, the fragmentation of landscape representations and the graphical analysis of territories not only occurred in vertical aerial views from airplanes, but many extracts of military panoramic pictures taken from tethered balloons also appeared in German publications. Military panoramic images (*Rundbilder* or *Rundblickaufnahmen*), composed of several individual images, offered a comprehensive view of the terrain in front of one's own position. Unlike the early 360-degree panoramas described at the beginning of this chapter, these military photographs served to scrutinize only about 60 degrees of the horizon, recording enemy positions behind the frontline (fig. 3.22-3.23). The army used this visual technique for orientation and to support artillery and mortar attacks. Panoramic pictures could be taken both from a few meters high as well as from a greater height thanks to the work of field airship units.³⁵

Although one may find similarities between this type of long military

³⁵ For an overview of German aerial cartography in WWI, see Espenhorst (2016).

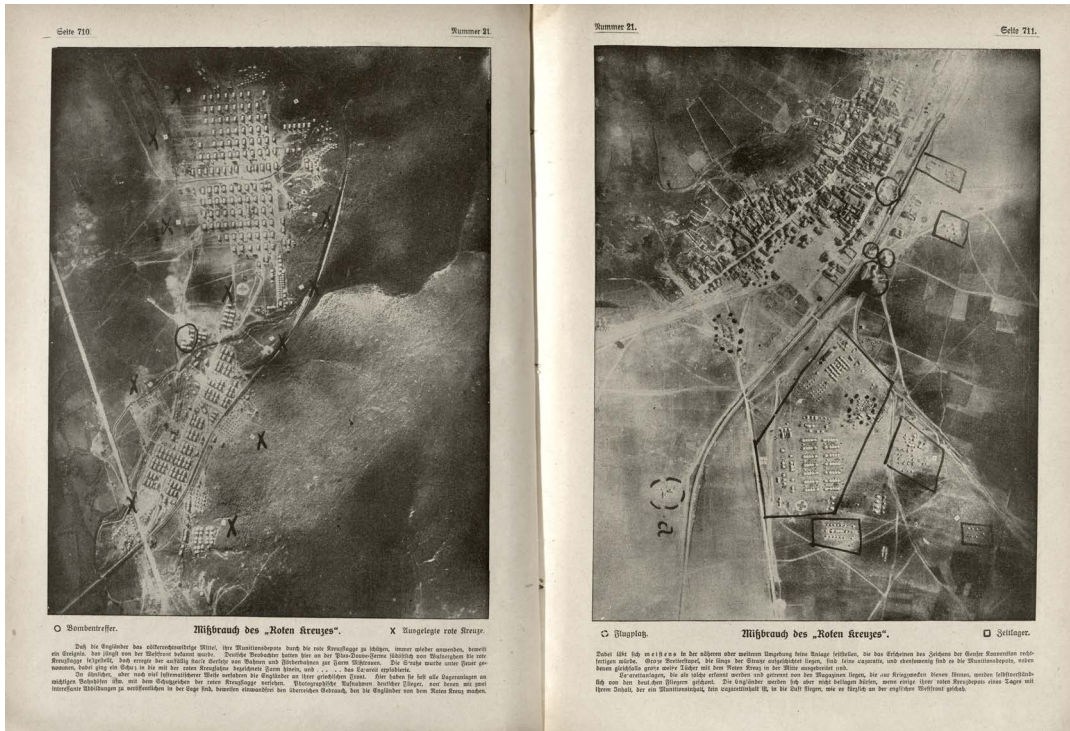


FIGURE 3.21: Aerial interpretation published to prove the controversial abuse of the Red Cross symbol (*Die Woche* 1917b, 710–11).



FIGURE 3.22: A portion of a military panorama taken from a tethered balloon (*Berliner Illustrierte Zeitung* 1918e, 138).

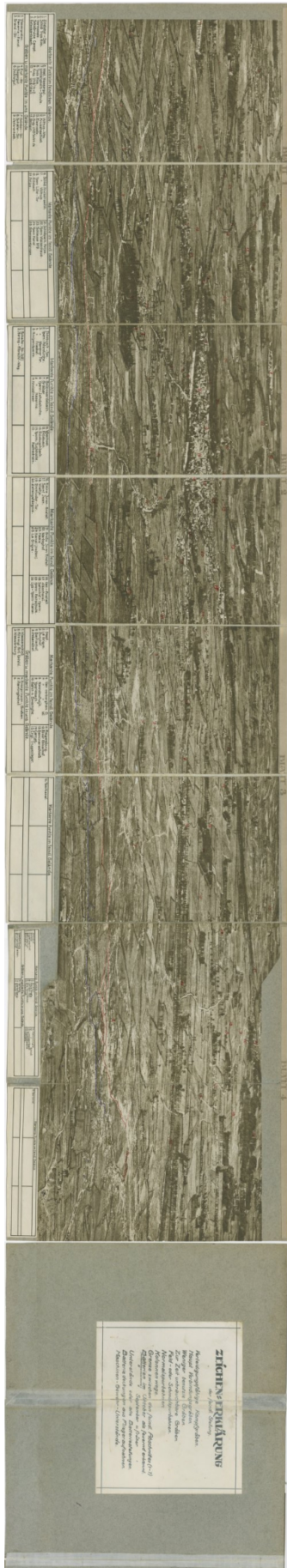


FIGURE 3.23: Military panoramic image (*Rundbild*) of Verlorenhoek (Ypern) made by the Feldluftschifferabteilung 1 in May 1916.

panorama (it could exceed 5 meters) and the “all-embracing” view of previous “classical” panoramas, there are at least three important differences to consider. First, the popular nineteenth-century panoramas allowed the eye of the observer to travel a great illusionary distance. Military representations, instead, aim at reducing the real distance between the observer and the horizon line. Although aerial distance is necessary to scrutinize the territory, progressively the interpreter (and consequently the reader) achieves the directional visual experience of enlargement, in order to get as close as possible to specific targets. Second, the nineteenth-century panorama as an instrument to comprehensively see the world as a whole is replaced by the idea of attaching segments of the world reaching the greatest level of functionality.³⁶ Third, the systematic analysis of military landscapes—made of sharp photographs and graphic signs indicating exact locations or scientific descriptions of the geography and geology of places—is an instrumental method that does not reference symbolic and poetic elements (Heidegger 1971, 228). Diverse from the previous aesthetic canons, these three novel approaches to space (enlarging, sectioning, and scrutinizing) will become the new criteria for perceiving and understanding the landscape.

Cultural theorists, media historians, and aesthetic philosophers have often described photography as a practice that already embedded in its own essence the concept of framing (consequently offering comparability, measurability, and clarity) (Batchen 2000, 10). The idea of viewing in sections is, for instance, reported by Paul Virilio in *The Vision Machine*.

A little later the director Jacques Tourneur confirmed the truth of this: “In Hollywood I soon learned that the camera never sees everything. I could see everything, but the camera only sees sections.” But what does one see when one’s eyes, depending on sighting instruments, are reduced to a state of rigid and practically invariable structural immobility? One can only see instantaneous sections seized by the Cyclops eye of the lens. (Virilio 1994, 13)

I argue that in the nineteenth-century photographed landscape the idea of “viewing in sections” was not as established as after WWI. The employment of photography as a scientific and military tool certainly depended on the mechanical automatization of the camera, able to quickly reproduce a series of

³⁶ Cf. “In its impact, the Panorama was a comprehensive form, the representation not of the segment of a world, but of a world entire seen from a focal height” (Meisel 1983, 62).

detailed copies of a subject. However, the spread of this concept outside scientific and military circles only occurred during the First World War influencing in German society at large.

Even though the German public at the turn of the century was partially trained to an elasticity of vision—the extremely big of the rotunda panorama and the extremely small of the *Kaiserpanorama*—landscape representations responded to the principles of harmonious unity and immersive totality. The instrumental and utilitarian aims of WWI aerial photo-reconnaissance, instead, required measurability, precision, comparability that could be ensured only through the sectioning of territories. Thus, the representation of the landscape “as a whole” and perception of “nature at a glance” were increasingly replaced by a fragmentary view of sections that reconstructed space keeping all its components under control. Consequently, new aesthetic terms, like measurable, de-composed, and precise substituted the “magic,” the “calm,” and the “perfect.”

3.3 Visibility and Camouflage

* A square-shaped photograph published in the magazine *Berliner Illustrierte Zeitung (BIZ)* on August 4, 1918 shows the exterior of an aircraft hangar. Airship hangars, like the ones that stored Zeppelins, were a typical subject in German publications since the beginning of the twentieth century. However, the building portrayed in this issue is of a special kind: instead of appearing as a monochromatic surface, the large wall of the edifice is painted with a landscape of a tree-lined road (fig. 3.24). The “real” strip of land, which expands horizontally in the foreground of the image, merges with the vertical surface of the hangar on which the “fake” bidimensional landscape is perspectively composed to resemble a three-dimensional environment.


In the art tradition, this visual illusion is called *trompe-l'œil*. A French term literally meaning “deceive the eye,” a *trompe-l'œil* painting or fresco, and often a mural, is designed to trick the eye into thinking that the painted surface is a three-dimensional object. In WWI, however, this artifice had a particular function, as the caption explains: “One of our airship hangars painted with a landscape to protect against air observation.”³⁷ Therefore, the *trompe-l'œil*, an art technique created to amaze the viewer, or employed in architecture to give the impression of a greater space, helped to hide strategic targets from enemy’s reconnaissance in wartime. Basically, the *trompe-l'œil* became military camouflage. Although the framing of the picture does not give any information on the real landscape behind the hangar, presumably trees occupied a large portion of the background; in this way covering the wall with a tree-lined road painting would have blended the building with its natural surroundings. It would appear that in the designers and military planners’ mind, thanks to this stratagem the hangar would therefore also have been difficult to spot from an elevated perspective. Admittedly, the illusion of the landscape would work only if an enemy airplane were coming in at a very low altitude. Today we know that naturalistic depictions that used perspective drawing are not the most effective method for concealing objects from aerial observation, but this picture shows that the German army did test realistic figurations during the first experimental stage of military vertical camouflage.

* This chapter is based on the following article by the author: Quagliati, Noemi. “Playing Hide-and-Seek in the German Press: The Presence and Absence of Camouflage in WWI Narrations”, *Vulcan* 9, 1 (2022): 18-49, doi: <https://doi.org/10.1163/22134603-09010003>.

³⁷ My translation; original: “Eine unserer Luftschiffhallen, die zum Schutz gegen Fliegersicht mit einer Landschaft bemalt ist.” (*Berliner Illustrierte Zeitung* 1918d, 248)

Berliner Illuſtrirte Zeitung.


Nr. 31



Der neue öſter. Miniſterpräſident
Dr. Max Frhr. v. Susekath.



Eine unſerer Luftſchiffhallen, die zum Schutz gegen Fliegerſicht mit einer Landſchaft bemalt iſt.



Der gerettete Held.
Den Kopf verlor der Held
Für unſre Damenwelt;
Gibt er den Kragen auch darein,
Wird er wieder oben ſein.

Das beraubte Land,
Nimm der Beträgung Anfang
ſowie Schluß;
Es bleibt ein Land, das viel er-
duiden muß.

Auflöſungen aus Nr. 30.
Silben-Räſel:
„Jugend iſt Trunkenheit ohne
Wein.“ Goethe, Beſtätlicher Diener.

1. Jalousie, 2. Unktion, 3. Gulaiſch, 4. Elbe,
5. Nerei, 6. Demut, 7. Intaſſo, 8. Sandwith,
9. Serpentin, 10. Tarrntappe, 11. Romanow,
12. Undine, 13. Nagafaki, 14. Konſtantin.
Gildliches Leben: Darm—o—nie.
Schneller Weg zum Reichthum:
Bahntnoten, Banknoten.

R Ä T S E L


Silben-Räſel.

Aus den Silben: al — an —
bal — brück — chi — chro —
de — del — di — ei — er —
erb — fel — ga — gu — he —
kilit — la — lah — land — lik —
ma — me — ne — no — or —
ra — ri — se — sim — son —
su — te — ter — ti — tor —
tra — uh — ſind 15 Wörter zu
bilden, deren Anfangs- und
Endbuchſtaben, von oben nach
unten geſehen, ein Geiſelſches
Zitat ergeben.

Die Wörter bezeichnen: 1. Staatsmann,
2. Gottesname, 3. niederländiſche Inſel, 4. griechiſchen Philoſoph, 5. modernen Maler, 6. Hülfenfrucht, 7. Südwein, 8. Kraftmeiſch, 9. Gebäck, 10. Gebirge, 11. italieniſchen Aufrührer, 12. Meeresbildung, 13. deutſchen Dichter, 14. Planet, 15. Zeitmeſſer.

Frommer Wunſch.

Ich nähm' zu meiner Seele oh und Heil
An einer al der Gläubigen gern teil,
Ach il doch meiner demutoollen Bitte,
In meiner Heimat herrſcht die fromme Sitte.



„Haben Sie die Rechnung bei Herrn Meier einſtaffiert?“ — „Nein, ich konnte ihn nicht finden. In dem Hauſe wohnen vier Meier, drei haben geſagt, ſie wären Ihnen nichts ſchuldig, und der vierte hat mich hinausgeſchmiſſen.“ — „Das iſt der rechte! Gleich gehen Sie noch mal hin und präſentieren ihm die Rechnung!“

*


„Papa, was iſt ein Sklave?“ — „Ein Sklave, mein Sohn, iſt ein Mann, der eine Frau und drei erwachſene Töchter hat!“

*

Unteroffizier (bei der Ausbildung): „Auläe, Sie ſind das reine Kamel, es ſehlen Ihnen bloß die Hörner!“

*

„Na,“ ſagte der Anwalt, „ich werde mein Möglichſtes tun, damit Ihnen Gerechtigkeit widerfährt.“ — „Aber, ich will gar keine Ge-



P. Timmer

rechtigkeit,“ rief der Klient zornig aus, „ich will meinen Prozeß gewinnen.“

*

„Denken Sie bloß, was mir auf der Fahrt nach Kiew paſſiert iſt. Ich ſiße im Coupé allein mit einem Ruſſen. Auf einmal legt der die Füße auf meinen Schoß, ſchläft ein und bleibt zwei Stunden ſo liegen.“ — „So, haben Sie ihn nicht aufgeweckt?“ — „Wie konnte ich denn? Ich verſtehe ja kein Wort ruſſiſch.“

*

Angeſtellter: „Verzeihen Sie, daß ich geſtern nicht kommen konnte; hatte mir anſcheinend den Magen verdorben, konnte den ganzen Tag nichts eſſen.“ — Chef: „So, das hätten Sie auch hier im Geſchäft beſorgen können.“

*

— „Alſo: zehn Mark oder drei Tage Haft! Was wollen Sie lieber?“ — „Wenn's Ihnen gleich iſt, nehme ich das Geld!“

Der verkannte Schlafanſang.

Das neue Dienſtmädchen: „Was iſt denn das?“
Hausfrau: „Das trägt der Herr in der Nacht.“
Mädchen: „So müſſen wir denn den Anzug nicht wieder ins Gefängnis zurüchſchicken?“

Die „Berliner Illuſtrirte Zeitung“ erſcheint wöchentlich einmal. In beſonderen durch jede Poſt-Anſtalt, Laſt Poſtzeitungsliſte; ferner durch jede Buchhandlung und durch jede Uſtellen-ſtelle für 1,50 Mk. vierteljährlich (7,50 Mk. monatlich). Anzeigen: Kriegepreis Nr. 10. — die 6-ſpaltene Kopparille-geſte. — Verantwortlicher Redakteur: Kurt Baſjanoff, Charlottenburg. — In Oeſterreich-Ungarn für die Permuſung und Abſtation ve.antwortlich: Ludwig Kilmberg, Wien. — Für die Anzeigen: Ernst Haupt, Berlin-Schöneberg. — Verlag und Druck von Ullſtein & Co., Berlin SW, Kochſtr. 22-23. 1 2 3 4 5 6 7

FIGURE 3.24: Camouflaged airship hangar (Berliner Illuſtrirte Zeitung 1918d, 248).

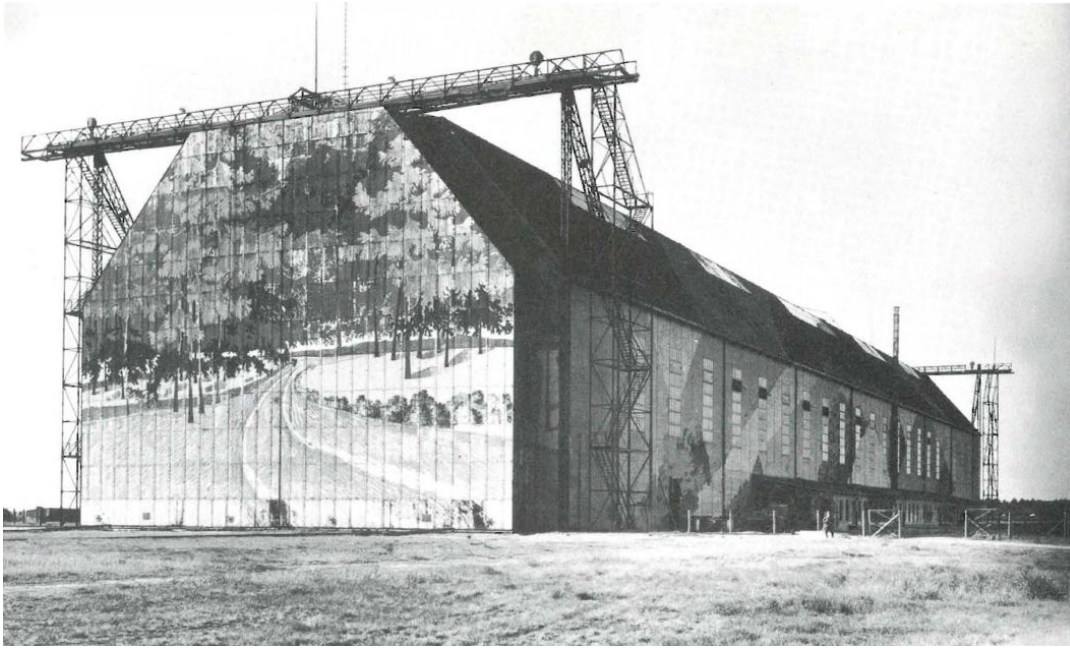


FIGURE 3.25: Original photograph of the hangar in Mannheim-Sandhofen.

Interestingly, this photograph appeared in the *BIZ* weekly section *Humor*. Like many illustrated newspapers, the last page often included rebus, humor columns, and cartoons, and it was common to find war related pictures randomly appearing in this humor section. However, besides short captions, these photos neither illustrated a specific article nor were related to the humor contributions. In the *BIZ* of August 4, 1918, the reader could not pinpoint the camouflaged hangar because the place where the picture had been taken was not reported, and since the function of camouflage presumes concealment, it is not difficult to understand why this detail has been omitted. As for many other examples, pictures published during the war were intriguing but not explanatory.

Years later, the camouflaged building has been identified as an airship hangar in Mannheim-Sandhofen. A copy of the original photograph housed in the archive of the Deutsches Museum bears the note: “An airship hangar painted with a landscape and colored strips on the side walls to protect against air observation.”³⁸ In fact, the square format image published on the *BIZ* has been cut from the original rectangular photograph, thereby excluding from the frame the long side of the hangar camouflaged with a diagonal stripe pattern (fig. 3.25). The original description, besides not being captioned

³⁸ My translation; original: “Eine Luftschiffhalle, die zum Schutz gegen Fliegersicht mit einer Landschaft und farbigen Streifen an den Seitenwänden bemalt ist.” Deutsches Museum, München, Archiv, 23921.

with the nationalistic term “our” (*Eine unserer Luftschiffhallen*), shows that the building entrance was camouflaged with a naturalistic representation, while the side presented geometrical motifs. This differentiation was probably determined by the fact that the lateral sides of the building were interrupted by a row of vertical glinting windows, elements difficult to conceal by means of a natural subject. It is not known the exact reason for the exclusion of a portion of the photograph in the publication: it could be either an editorial choice in order to obtain a specific photo size or an imposition of the army that preferred not to show experimentations with new types of patterns for military camouflage (the original picture housed at the Deutsches Museum contains the approval stamp for publication, therefore it seems that the photo was not censored).

The two different effects of camouflage (naturalistic and geometric) tested on a single building testify to the constant experimentation with visual techniques occurring in WWI. Thus, the subject described in the previous paragraphs serves as an example to introduce concepts like visibility, concealment, deception, disruption, and creation of artificial landscapes, which will be discussed in the present chapter. Particularly, this section tackles the following issues: How was visual camouflage enhanced during WWI, and how was it presented to the German public? How did the introduction of new visualities (like vertical perspective) and increased visibility (through searchlight, periscope binoculars, aerial photography, etc.) impose the elaboration of specific camouflage patterns? What role did the collaboration between art, geography, and natural studies play in developing this kind of multiple landscapes? What was the influence of avant-garde movements on and from military visual camouflage production?

Unlike the Allied informative propaganda, during wartime, the topic of concealment was reported in German publications only occasionally and in a vague manner. Neither the French term *camouflage* (which soon became international)³⁹ nor the German *Tarnung* was mentioned in any of the articles regarding concealment. The most common word used in these cases was instead *Schutz* (protection), compounded in various forms: *Schutzkleidung* (protective clothing), *Schutzfärbung* (protective coloring), *Sichtschutz* (protection

³⁹ The French term “camouflage” started to be employed in the military context with the meaning of visual disguise during WWI. According to the Oxford English dictionary, it was exported into English in 1917 and, by the end of the war, the word became of common use with several figurative meanings. See Behrens (2002, 171).



FIGURE 3.26: Three covers of the BIZ published between 1915 and 1916 showing the “military vision” enhanced by optical instruments.

from view). This concept of protection originated from a sort of anxiety over a new powerful vision provided by the military photo-optical innovations. One of the most significant features of the “modern” wars was the ability to scrutinize every place at any time, overcoming any geographical and climatic obstacle. The ubiquitous image of a soldier intent on zeroing in on a target through an innovative device was a very popular subject of many magazines’ covers (Cf. *Berliner Illustrierte Zeitung* 1915a; *Berliner Illustrierte Zeitung* 1916g; *Berliner Illustrierte Zeitung* 1916a). In these photographic representations, the target is out of frame and the act of gazing is the real focus of the reader’s attention (fig. 3.26). Covers were designed with the aim of showing German superiority in “watching” the enemies; a type of gaze that embodied the idea of controlling, mastering, and dominating the battlefields and the war course. *Das Auge des Heeres* (The eyes of the army),⁴⁰ namely the technological exact vision offered by telescope, periscope, rangefinder, photogrammetry, etc., required every combatant country to enhance the capacity to control enemies’ operations while employing protective measures to secretly preserve their own advancements.

The observation of the enemies happened at any possible level: from the ground (usually from an elevated position such as trees and poles) from the sea (through the periscope of submarines), and most effectively from the sky (by means of airships and airplanes equipped with cameras). Surviving war

⁴⁰ See the article “Das Auge des Heeres” in *Berliner Illustrierte Zeitung* (1914b, 845–46).

archives testify that the German army employed camouflage on different occasions and in basically similar forms as the Allies, although in a less systematic and unified manner.⁴¹ However, during the war the propaganda communication strategy in the media tended to omit the German use of camouflage structures and patterns, focusing instead on the novelty brought by military optical technologies. In other words, Germans more prominently displayed the cause of camouflage, namely the enhancement of the capacity of viewing, monitoring, and surveying the enemies, rather than showing the effects of these ways of scrutinizing, which necessarily demanded new schemes to conceal. The following section analyzes the presence and absence of visibility and camouflage in the German public discourse showing the peculiarity of the German narration compared to the Allied one.

If the vertical aerial view and consequently vertical camouflage represented the real novelty of WWI⁴²—together with specific types of ship camouflage—the horizontal observation and the horizontal concealment had been already tested in previous conflicts. Visual camouflage before WWI was adopted by the British Army in Northern India in 1846, when the so-called Corps of Guides wore khaki uniforms, a color that resembled the dusty and muddy features of that region. Following this trend, in WWI the respective armies abandoned the traditional bright-colored uniforms and opted for gray, faded green, or horizon blue in order to blend in with the territory. Concealing by making troops or weaponry disappear in the visual properties of specific landscapes was presented to the German public by means of pictures from the theaters of war in the Middle East and in Africa. Here the landscapes presented spectacular features (coasts, deserts, etc.) and soldiers disguised with tufts of grass or cereal leaves on their steel helmets represented a particularly peculiar subject for the European public (fig. 3.27).

Most of these pictures—as indeed the majority of the photos about camouflage published in Germany during the war—were taken from foreign publications and then redistributed within German newspapers, representing, therefore, only the ‘enemy’ side of camouflage practices. Circulating also in other European and North American publications, these photos became icons in the Allied countries. In Germany, they served as an informative tool showing the variety of WWI camouflage systems, but they were often accompanied by texts

⁴¹ The one area the Germans did not experiment with was dazzle camouflage for ships, which will be explained later in this chapter.

⁴² In this section, vertical camouflage is understood as the method of camouflaging objects on the ground from observation from the air.



FIGURE 3.27: Cereal leaves on steel helmets as a way of concealment during an army patrol (*Berliner Illustrierte Zeitung* 1918f, 267).

that did not apparently illustrate the content of the pictures. The *BIZ* 1918 article entitled “Flugzeug-Spione” (Spy-airplane) showed a summary of the Allied camouflage techniques employed (fig. 3.28): an English soldier, wearing a helmet covered with grass to merge with the African environment, who reproduces the protective condition known in the animal context as cryptic coloration, and an American artillery observer, dressed in a hooded outfit with banding, adopts the method for disrupting their outline as seen in animal prey (the caption notes that this latter scheme is “peculiar” [*sonderbare*]). Other forms of military camouflage, like wooden models of English ships to lure German submarines or overhanging nets to impede aerial observation, are also shown in this article.

The text that accompanied these pictures, however, did not further demonstrate techniques for camouflaging objects, but explained that spies, parachuting at night in the German territory, had tried, with only little success, to hide among soldiers and civilians in order to send secret information back to the Allies. Thus, the combination of text and pictures aimed at comparing the nerve-racking (*nervenaufreibend*) tasks of spies—who, unsuccessfully, embodied the idea of hiding (in other words camouflaging) their own identity to purloin intelligence—to other forms of visual concealment that were denigrated as unchivalrous acts of cowardice. In doing so, the WWI German propaganda

Berliner Illustrirte Zeitung. Nr. 15

116


Finten im Kriege: Kriegsschiff-Attrappen aus Holz, die die Engländer zur Anlockung von U-Booten errichtet haben.
Englische Photographie.

Flugzeug-Spione.

Dem ruhmlosen, aber gefährlichen und nervenaufreizenden Handwerk der Spione hat das Flugwesen ein neues gefahrvolles Mittel zur Befähigung geliefert. Besonders unsere Feinde an der Westfront haben das Abfeigen von Spionen durch



Eine List vom Krieg in Afrika: Englischer Offizier mit einem durch Grasbüschel verkleideten Tropenhelm.

Flugzeuge häufig versucht, allerdings, wie gleich gesagt werden kann, mit äußerst geringem Erfolg. Früher geschah dieses Abfeigen dadurch, daß ein Flugzeug hinter unsere Linien landete, den Spion aussetzte und wieder davonflog. Sehr häufig hatten diese Flugzeuge aber Panarie, denn die Landung auf unbekanntem Boden ging nicht immer glatt vonstatten, und Flugzeug und Besatzung wurden gefangen genommen. Jetzt werden die Spione mit Fallschirmen ausgerüstet und müssen von den Flugzeugen, die sie nachts oder im Morgenrauen über die Front bringen, an einem vorher auf der Karte bestimmten Platz im Fluge abspringen. Die Spione sind meist in dem Gebiet, das sie ausspionieren sollen, beheimatet, häufig auch Soldaten geringen Ranges, die sich zu diesem gefährlichen Wagnisse bereit gefunden haben. Da aber zum nächtlichen Absprung mit dem Fallschirm eine große Portion Entschlußkraft gehört, und schon manchem Spion im letzten Augenblick der Mut versagt haben mag, sind diese Flugzeuge so eingerichtet, daß der Führer durch eine Hebelzug-Vorrichtung einfach den Boden unter dem Sitz des Spions aufklappen läßt und dieser, der

bereits den Fallschirm an sich befestigt trägt, in die Tiefe stürzt. Da die Fallschirm-Abstürze in den meisten Fällen gut verlaufen, gelangen die Spione auch häufig heil zur Erde. Sie sind mit Militär- und Zivilanzug ausgerüstet, damit sie sich, falls sie etwa gleich in die Hände deutscher Soldaten fallen, als Militärpersonen ausgeben können, andererseits im



Eine sonderbare, von den Amerikanern erfundene, Schutzkleidung für Artilleriebeobachter in Bäumen

FIGURE 3.28: Article “Flugzeug-Spione” (Spy-Airplane) in *Berliner Illustrirte Zeitung* (1918c)

reinforced the idea that Germany did not need to undertake such actions to win the conflict.

Despite deprecating the enemy, these types of articles also showed that modern forms of concealment (at least the ones improved from the Allied side) evolved from the animal sphere, e.g., the *zébrage* of the American artillery observer (fig. 3.28, bottom right). Since the beginning of the twentieth century, zoologists, naturalists, and artists have increasingly considered contrasting patterns highly effective for camouflage. Unlike the monochromatic coloring, which remained clearly discernible from a great distance, the contrasting motifs tend to disrupt the shape of the object.⁴³ Therefore, although the previous two pictures—the soldier merging with the African environment and the sniper with *zébrage*—were compared on the same page to offer opposite visual effects, both were designed to deceive the eyes of the enemy.

The use of protective coloration and methods to blend a figure into the ground were phenomena already well known by hunters, who learned them by observing the animal world. Natural camouflage includes various methods, such as cryptic coloration, disruptive patterns, and countershading, among many others. Crypsis indicates an animal that matches the color and texture of its surroundings, while disruptive camouflage breaks up the profile of the animal through high-contrast patterns (which is the same principle used by the American sniper). In the 1909 book *Concealing-Coloration in the Animal Kingdom*, the American artist and naturalist Abbott Handerson Thayer brought to the attention of the general public the effect of countershading, explaining: “Animals are painted by Nature darkest on those parts which tend to be most lighted by the sky’s light, and vice versa” (Thayer and Thayer 1909, 14). Having a darker colored surface on the upper side of the body and a lighter color on the underside allows many mammals to achieve a visual flattening and by

⁴³ For protective coloration in nature, see the 1909 book *Concealing-Coloration in the Animal Kingdom* written by the artist Abbott Handerson Thayer, together with his son Gerald Handerson Thayer. One famous exercise of recognition proposes a comparison between monochromatic coloring and high-contrast patterns that needs to be looked at from a distance. The caption explains: “Here the spectator will discover, if he recedes far enough, (seven or eight yards in a bright light) that all three of the monochrome butterflies, even the dimmest, can be seen further, or in a less illumination, than the normally and brightly patterned one. This latter *fades first*. This shows how contrasted juxtaposed color-notes efface each other, so that contrary to the old theories they are not so good as monochrome for revealing the wearer, even in the open, while, seen through the average tracery of out door vegetation, they almost *guarantee* disguise and concealment” (Thayer and Thayer 1909, Fig. 106). See also the work of the British zoologist Hugh B. Cott, an expert in natural and military camouflage. In the book *Adaptive Coloration in Animals* (1940), Cott also discussed some of Thayer’s concepts, describing them in more temperate and scientific terms.

the same principle, fish are inconspicuous when seen either from above or below. Besides these properties, motion dazzle (bold patterns that distort the shape of the prey in movement), and mimicry (prey appearing as something else, e.g., a predator) are disruptive methods that protect without hiding.

During the war, all these forms of natural deception were adapted for military practice: disruptive patterns were painted on artillery, tracks, and tanks, cryptic coloration was found on uniforms, countershading was tested on airplanes, and motion dazzle was effective on ships. Different techniques were often tested on the same type of artifact, such as in the case of the hangar mentioned at the beginning of the chapter (which included cryptic coloration on the front and disruptive patterns on the sides). All the countries involved in the conflict employed concealment, disguise, decoys, and dummies. Famous examples of this last case were the fake shell-blasted tree stumps positioned on opposing lines of the Western Front, which contained a one-person observation post and a telegraph. Decoys were instead the fake ships documented in the *BIZ* of April 14, 1918, with the caption: “Faints from war: Mannequins of English ships made of wood to lure German submarines” (fig. 3.28).⁴⁴ The Great War was the first systematic field test for the application of visual military deception, and by the end of the conflict, it became clear that camouflage depended on the correlation of different factors: geographical and climate conditions, type of warfare, quality of visual-technological observation, and psychology of human perception.

Extensively developed by the French since 1915, military camouflage for equipment and positions was soon adopted by all the WWI armies. Since visual camouflage is a matter of color, tone, contrast, texture, shape, light, shade, glint, scale, and perspective, it is clear that many civilians from the world of art, theatre, and architecture were involved in WWI military camouflage.⁴⁵ In fact, the first *section de camouflage* in military history was coordinated by the Parisian portraitist Lucien-Victor Guirand de Scévola. By 1917, this section consisted of 3000 men and women. Although the primary workshop was based in Paris, painting units were also attached to military units on the battlefields. In 1916, Great Britain established its own camouflage section commanded by Lieutenant-Colonel Francis Wyatt of the Royal Engineers. Similarly

⁴⁴ My translation; original: “Finten im Krieg: Kriegsschiff-Attrappen aus Holz, die die Engländer zur Anlockung von U-Booten errichtet haben. Englische Photographie.” (*Berliner Illustrierte Zeitung* 1918c, 116)

⁴⁵ For a recent study on the role of camouflage and its relation with art, theater and war, see Wiemer (2020). For the mutual influences of military camouflage and avant-garde aesthetic, see Kahn (1984), Saint-Amour (2003), Deer (2009), and Newark (2013).

to the French case, professional artists were recruited for their visual expertise. Among them, the academic painter Solomon J. Solomon worked as a British camouflage advisor and in 1920 wrote *Strategic Camouflage*. In this book, he claimed that Germans succeeded in hiding shelters and units by using gently sloping camouflage materials so that the artificial structures left neither self-shadow nor cast shadow.⁴⁶ As soon as the U.S. entered the war, the artists Barry Faulkner and Sherry Fry founded the first civilian Camouflage Society in New York. Between 1917 and 1918, Allied propaganda about camouflage proliferated enormously. Various American newspapers reported headlines such as “Call for ‘Fakers’ to Fool Germans,” “Wants Camouflage Force” (*New York Times* 1917); “Local Artists Developing New Theory of Army Camouflage” (*Hartford Courant* 1918); and the new word “camouflage” even emerged in cooking articles referring to substitutive ingredients to replace the lack of items during the war, as in “Camouflaged Pumpkinless Pumpkin Pie” (*Fort Scott [Kans.] Tribune* 1917).

As shown at the beginning of this chapter, sketches and reports from various *camoufleurs* reveal that both naturalistic and abstract patterns were tested to disguise military objects and positions. The weekly French newspaper *L'Illustration* published a chart showing the tonalities of the terrain along different sections of the Western Front, which served as a color guide for painting camouflage screens and fabrics (*L'Illustration. Journal Universel* 1920, 16, fig. 3.29). Conversely, following a less conventional method, André Mare's sketch of a 280-caliber field gun covered with a combination of abstract shapes is similar to the illustration of a British Mk IV tank published in *The Sphere* in August 1918 (*The Sphere. An Illustrated Newspaper for The Home* 1918, 85, fig. 3.30). The German public, instead, encountered color spots painted in a “Pointillist” manner on any type of convoys, but this form of concealment appeared less often than in the Allied publications (fig. 3.31) (Behrens 2002, 75).

In fact, the circulation of pictures portraying German camouflage patterns mainly occurred in 1918, relatively late compared to other countries. The delay and scarcity of representations of German camouflage in the press depended on two factors. First, the negative reputation that camouflage had in the aggressive German public narrative. Second, the first standardized motif of the Imperial German Army was officially introduced only in 1918. The

⁴⁶ In contrast to Solomon J. Solomon's argument present in the book *Strategic Camouflage* (1920), German troops practiced concealment without employing systematic and selected units of experts (Hartcup 1980, 29–30; Wright 2007, 143–46; Shell 2012, 109).

L'ILLUSTRATION



Secteur de Champagne.



Secteur de l'Aisne (bois).



Secteur du Santerre, au printemps.



Secteur de Lorraine.



Secteur des Flandres.



Secteur de l'Oise.



Secteur des Vosges.



Chemin des Dames.



Secteur de Verdun.



Secteur de l'Argonne.

UNE CARTE D'ÉCHANTILLONS DU CAMOUFLAGE. — Les secteurs du front.

Chacun de ces échantillons donne la tonalité générale du terrain d'un secteur et indique les nuances et dispositions à adopter pour l'imitation en toile peinte de ce terrain

FIGURE 3.29: Color chart showing the tonalities of the terrain along the Western Front. French camouflage published in *L'Illustration. Journal Universel* (1920).



FIGURE 3.30: Camouflaged British Mk IV tank painted by W. Edward Wigfull and published in *The Sphere*, August 1918 (above). Pages from André Mare's sketchbook, ca. 1917 (below).

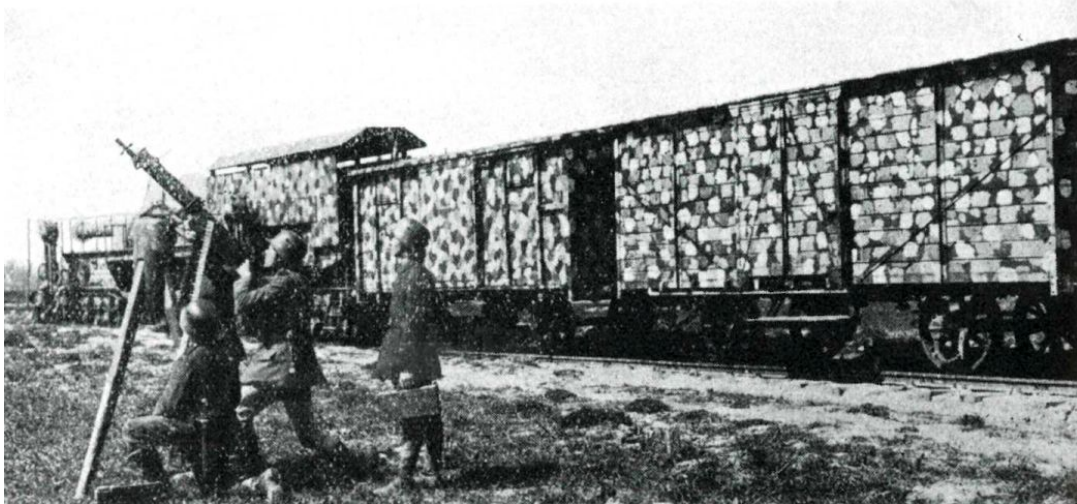


FIGURE 3.31: German armoured train camouflaged in a “Pointillist” method. (*Deutsche Luftfahrer-Zeitschrift* 1918, 26)

so-called “Buntfarbenanstrich” (colorful paint) pattern comprised large and sharp-colored patches of rust brown, ocher yellow, and green, separated by thick black lines, and was applied to large equipment (tanks, vehicles, cannons) and steel helmets (fig. 3.32).

Even though this motif had been informally tested on many occasions since 1916, it became the official variation of the already common “Feldgrau” tint (a green-gray shade) only in 1918 (Denecke 2001). The precursor to this “Buntfarbenanstrich” motif, a pattern made of multicolor irregular matte spots, was described by the German painter Franz Marc (1916) as a pointillist style. This phrase drove scholars to include this specific German pattern in studies about the mutual influence of avant-garde aesthetic (often also Gestalt theory) and military camouflage, comparing the German “pointillist method” (Behrens 2002, 75) with Allied techniques supposedly driven by the cubist aesthetic (Kahn 1984; Saint-Amour 2003; Newark 2013; Deer 2009). Nevertheless, the contribution of Franz Marc and Paul Klee (conscripted artists previously involved in the German avant-garde movements) to the development of camouflage cannot be put on the same footing as the work of figures such as the Parisian portraitist Lucien-Victor Guirand de Scévola, coordinator of the first *Section de camouflage*, the academic painter Solomon J. Solomon, who wrote the much-discussed book *Strategic Camouflage* (1920), and the marine painter Norman Wilkinson, who proposed the paint scheme Razzle Dazzle, among many others from the Allied side. If Klee and Marc were asked to undertake tasks of painting protective surfaces—although respectively conscripted into



FIGURE 3.32: German M1916 steel helmet, hand-painted in camouflage segments.

the aircraft maintenance company and in the cavalry—there is indeed no evidence that they played a fundamental role in the German development of either horizontal or vertical camouflage (Benz-Zauner 1997; Marc 1916). Unlike French and British practices, in Germany, artists by profession were not specifically conscripted in any camouflage section, and camouflage itself was not perceived as an art. Unlike the Allied powers, which established camouflage sections recruiting civilians from the world of art, theatre, and architecture, Germany never created a specific camouflage unit.

This last aspect, however, should not be misinterpreted. Even though a German unit of *camoufleurs* was not established, the German army adopted protective measures to prevent both observation from the ground (horizontal camouflage) and reconnaissance from the air (vertical camouflage) since at least 1915. Germans started protecting individual weapons, like machine guns, then extended concealing methods to all artillery positions, storage depots, and airship-airplane hangars, covering, by the end of the conflict, large areas such as crucial railroad lines and communication routes. An official top-secret message sent from the captain of the German General Staff (Generalstab) on 14 February 1918 to both ground forces and aviation ordered that “coverage against earth and air detection has now become the most important part of the construction of military emplacements, since our enemies are expected to intensify air detection in the spring.”⁴⁷

⁴⁷ My translation of the first part of the document Nr.475 Ia. Div. St. Qu. 14.02.1918 in BayHStA, Inf. Div. (WK) 1780, Bayerisches Kriegsarchiv: “Die Deckung gegen Erd-und-Lufterkundung ist jetzt der wichtigste Teil des Stellungsbaues geworden, nachdem im Frühjahr mit einer verstärkten Lufterkundung durch unsere Feinde zu rechnen ist.”

Detailed instructions regarding assignments for every military specialization (infantry, cavalry, signal corps, etc.) demonstrate that, unlike the coordinated camouflage sections of the Allies, camouflage tasks were undertaken by different German units, depending on the kind of target to conceal, and were coordinated directly by troops' supervisors. Many large structures were made by the *Pioniertruppe*, employed to accomplish engineering and construction tasks. Sloped roofs made of grass to partially cover underground shelters, walls consisted of wire or intersecting branches and leaves to mimic arbors, and painted fabrics and nets to protect streets were only some of the measures employed by the German Army.

Moreover, by 1917 Germans had become aware of the Allied camouflage systems. At the beginning of 1918, the German Supreme Army Command (OHL) transmitted an announcement regarding captured British orders of the XV Corps (*Erbeutete englische Befehle*), which contained information about enemy camouflage methods.⁴⁸ These remarkably important spoils of war—translated into German, communicated to all general headquarters (*Generalkommandos*), and distributed to every German military unit—comprised instructions for applying effective vertical camouflage, taking into account shape, color, and shadow of objects, while at the same time saving manpower and resources. These documents clearly showed that British camouflage was carried out in a more unified way than the German approach: with specific sections located both in England and on the Western Front that were coordinated by Royal Engineers distinct camouflage officers. The recruitment of professional artists within the British camouflage workshops is also evident in one statement of these stolen documents: “Camouflage does not require measuring because it is not a material, it is an art.”⁴⁹ Similarly, French military orders declared that, from the Allies' point of view, the military triumph of camouflage could only be guaranteed by artists' visual and practical expertise (Kahn 1984, 1). This concept was entirely lacking in the German camouflage tradition.

Within the Allied units, only a minority of *camoufleurs* belonged to avant-garde movements—e.g., the cubist André Mare and the vorticist Edward Wadsworth. The transformative impact of these innovative aesthetics

⁴⁸ See Bayerisches Kriegsarchiv, Nachr.-Offz. der O.H.L. beim A.O.K. 17. den 11.4.1918 in BayHStA, Inf. Div. (WK) 1779.

⁴⁹ “Maskierung fordere man nicht nach Metern an, denn sie ist kein Material, sondern eine Kunst.” Bayerisches Kriegsarchiv, BayHStA, Inf. Div. (WK) 1779.

before the outbreak of the war⁵⁰ highly impacted the creation of camouflage patterns. As Sonja Dümpelmann notices in *Flights of Imagination: Aviation, Landscape, Design*, the assimilation of avant-garde motifs in WWI military camouflage also contributed to a wider acceptance of new directions in art (Dümpelmann 2014, 157), and the art historian William Gaunt, who served in WWI, explains in *The March of the Moderns*:

To some the war was like the materialization of a theory. 'Nature', in a sinister meaning of the gay phrase of the 'nineties, crept up to art. The tremendous bombardments which left behind a stark tree-stump, a criss-cross of trenches on a barren shell-pocked plain from which all colour had gone, created a Cubist landscape. The science of camouflage, devised by the most correctly academic painters, arrived in some strange fashion at the abstract forms which had seemed so revolutionary a few years before. (Gaunt 1949, 173–74)

Even the father of the French camouflage, De Scévola—who was a traditional academic artist—admitted being consciously influenced by Cubism in the creation of military patterns: “In an effort to obliterate objects, I used the techniques the Cubists had used to simulate objects. Later, this enabled me, without having to justify my decision, to assign certain painters to camouflage who—because of their visual adeptness—could prevent the recognition of virtually any objects” (Kahn 1984, 19). Painting lines and geometric shapes, the Cubists had abandoned the single viewpoint as well as the structural unity of the object. In a spatial continuum of the figure with the background, the subject was seen from several different positions simultaneously in a multitude of fragments. Therefore, Cubism and camouflage adopted the same principles: the first, aiming to open up new perspectives of reading objects, and the second, instead, to hide an object or make it appear as something different. Although the pioneers of Cubism, Picasso and Braque, learned of camouflage only indirectly, Picasso’s reaction to a camouflaged cannon in Boulevard Raspail has become popular: “*C’est nous qui avons fait ça*, he said, it is we that have created that.”⁵¹ Moreover, in a letter to the French poet and critic Guillaume Apollinaire, who was serving in the army, Picasso suggested: “I’m going to give you a very good tip for the artillery. Even when painted gray, artillery and cannons are visible to airplanes because they retain their shape. Instead they

⁵⁰ In 1907 Picasso completed *Les Femmes d’Alger (O. J. R. Version O)*, which was considered the first major Cubist painting. Expressionism (Die Brücke and Der Blaue Reiter), Vorticism, and Futurism were artistic tendencies already established before WWI.

⁵¹ This event was reported by Gertrude Stein in *The autobiography of Alice B. Toklas* (1933).

should be painted very bright colors, bits of red, yellow, green, blue, white like a harlequin” (Richardson 1996, 349). This figure-ground relation, which Picasso describes as retaining the shape vs disrupting the shape, reminds *Gestalt* concepts such as unit forming vs unit braking (Arnheim 1920; Heider 1973). Indeed, scholars have shown the mutual influence between WWI camouflage and *Gestalt* psychology: the theory created by Kurt Koffka, Max Wertheimer, and Wolfgang Köhler in the early twentieth century that constitutes the modern study of perception. Emphasizing that the whole of anything is greater than its parts, these authors analyzed the “laws of visual organization” through which human beings experience the world. Similarity, proximity, continuity, and closure contribute to the instinctive grouping process by which humans absorb and organize space.

These dynamics of sight, unconsciously adopted by every person and fundamental principles for art practitioners also guided designers and editors in graphically combining photographs and texts on the pages of the illustrated magazines during the war. In 1918, the *Berliner Illustrierte Zeitung*—already famous for using innovative layouts that later made it one of the most “modern” mass-produced magazines in the Weimar Republic—published two similar but extremely curious pictures (fig. 3.33 - 3.34). Not only were the subjects of these photographs unusual sorts of large metal round artifacts, but also the arrangement of the photos at the central upper part of the page like a bull’s-eye, was atypical. In both cases, the round figures seemed to be kept in balance, lying exactly on the invisible line that horizontally divides the magazine’s page in two.

The first photograph (fig. 3.33), made public on February 21, 1915, incorporates a caption without which interpretation of the image would have been difficult: “View into the barrel of a large ship gun.”⁵² The reader faces a big gun looking into the barrel’s inner surface, which is manufactured with spiral grooves. This rifling imparts a spin on the bullet and, guiding it into the barrel, guarantees accuracy during the projectile flight. Similarly, from a visual point of view, the spiral guides the reader’s eye into the gun through to the other side of the tube. Thus, the fascinating effect of this shape implies a dangerous outcome, particularly because it is not clear whether the reader is the offender or the target. Moreover, this perspective completely flattens

⁵² My translation; original: “Bilder vom Tage. Blick in das Rohr eines großen Schiffsgeschützes” (*Berliner Illustrierte Zeitung* 1915b, 100). The photo was first published in English newspapers. *BIZ* repurposed it in a new size, cutting out the background and leaving only the round profile of the gun.



FIGURE 3.33: View into the barrel of a large ship gun. (Berliner Illustrierte Zeitung 1915b, 100)

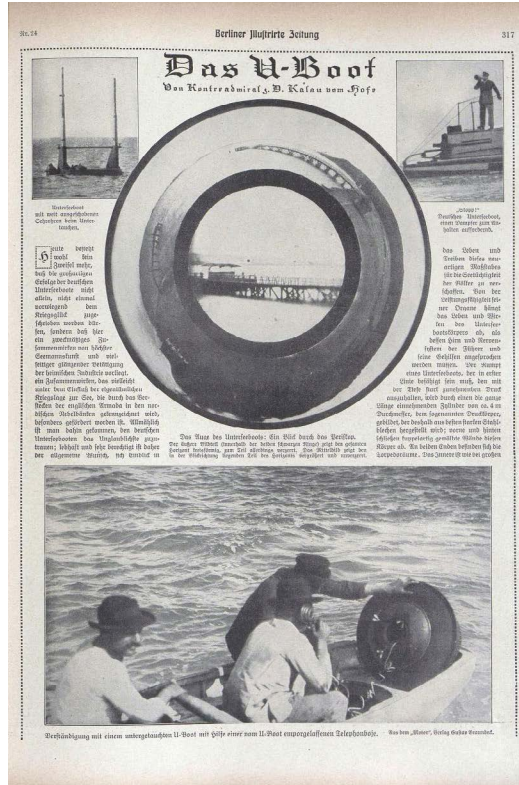


FIGURE 3.34: The eye of the submarine: a look into the periscope. (Berliner Illustrierte Zeitung 1915c, 317)

the tridimensional shape of the gun and consequently represents a sort of visual trick, a camouflage. At first glance, without reading the description, it resembles a kind of mechanical eye or a camera's shutter, popular elements in many artistic productions of the Weimar Republic. It is no coincidence that in 1919 the German Dada artist Hannah Höch included this same picture in her photomontage *Dada Review* ("Dada-Rundschau," Berlinische Galerie, Berlin).

The second photo, published on June 13, 1915, has a practically identical style and composition (fig. 3.34). Two concentric circles are positioned on the central upper side of the page. Within the space between the two black rings appears a distorted landscape, which follows the curvature of the ring. In the area within the smallest circle, what looks like a section of the previous landscape is instead sharp and undeformed. It is now possible to classify it as a marine landscape. Indeed, the title of the article is "Das U-Boot" (German term that stands for under-the-sea-boat) and the caption clarifies: "The eye of

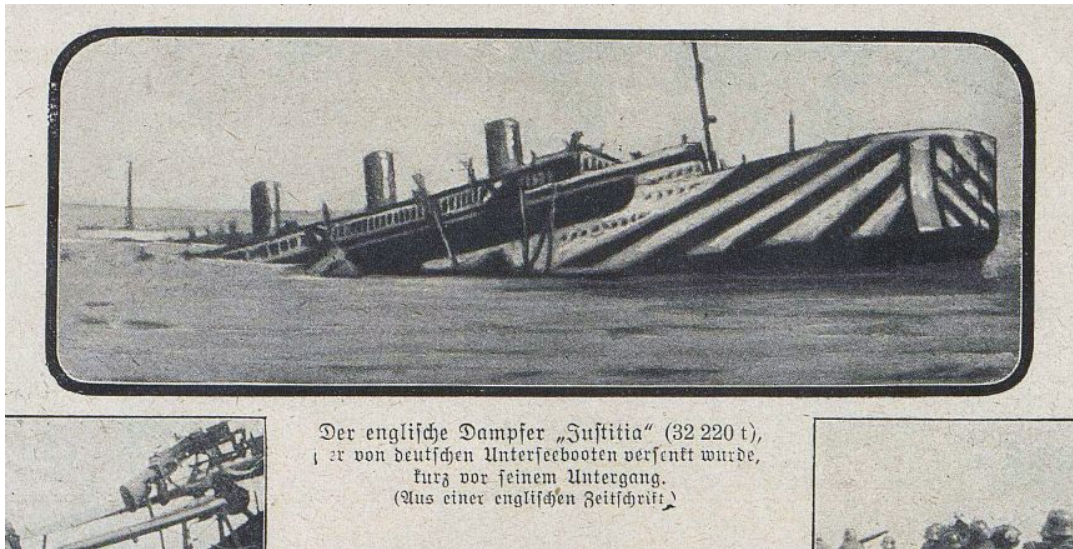


FIGURE 3.35: British troopship SS Justicia after being assaulted by two U-boats. (*Berliner Illustrierte Zeitung* 1918a, 306)

the submarine: a look into the periscope.”⁵³ Through a periscope, a tube containing a set of mirrors or prisms, an observer can see things that are actually out of sight. A U-Boot could attack a target by means of a torpedo, remaining submerged and aiming through the periscope from a safe distance. This instrument gave the submarine’s crew a 360-degree view of the ocean surface from underwater; seeing without being seen.

The two previous photographs were published to propagandistically advertise the naval superiority of Germany; supremacy that before the war had been historically held by Britain. In WWI, German U-Boats constituted a real threat for the other countries: only in 1917 submarines’ torpedoes sank more than 925 Allied ships (Behrens 2002, 83).⁵⁴ A photo of the sinking of the British troopship SS *Justicia* after being assaulted by two U-boats was reported in several European newspapers in 1918 (*Berliner Illustrierte Zeitung* 1918a, 306, fig. 3.35). The interesting aspect of this picture is the hull of the ship still above the waterline seen covered with the extravagant British camouflage paint scheme called “Razzle Dazzle.” In fact, to prevent German torpedoes from attacking Allied merchant ships bringing food and supplies to Britain, the marine painter Norman Wilkinson, who was a lieutenant in the Royal Navy, proposed to cover the vessels with colored and strongly contrasting stripes. These highly

⁵³ My translation; original: “Das Auge des Unterseeboots: Ein Blick durch das Periskop. Der äußere Bildteil (innerhalb der beiden schwarzen Ringe) zeigt den gesamten Horizont kreisförmig, zum Teil allerdings verzerrt. Das Mittelbild zeigt den in der Blickrichtung liegenden Teil des Horizonts vergrößert und unverzerrt.” (*Berliner Illustrierte Zeitung* 1915c, 317)

⁵⁴ The sinking of the passengers’ ship *RMS Lusitania*, with American citizens on board, is among the reasons for the entry of the United States into the war.

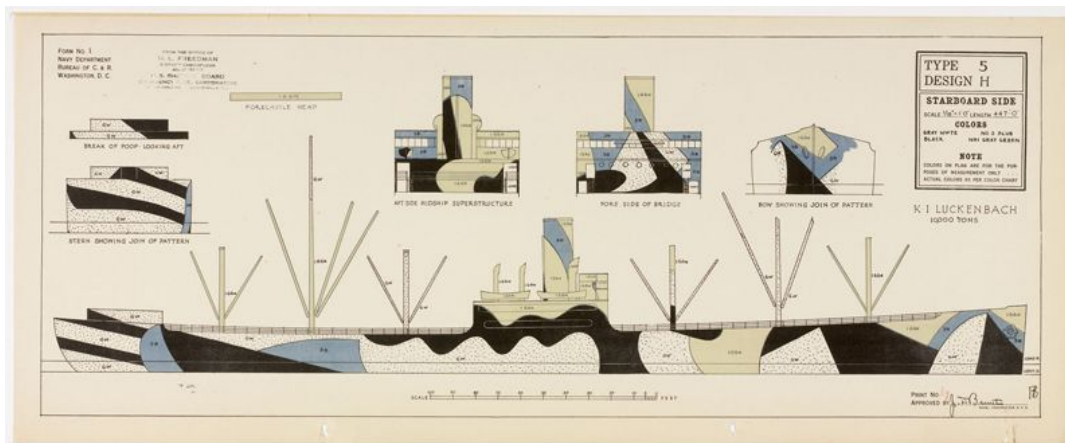


FIGURE 3.36: Dazzle Plan, Navy Dept. Bureau of C&R, Washington D.C.

disruptive patterns totally broke up the shape of the ship. As a result, the vessels moving in an ever-changing seascape continuously assumed different configurations. This type of camouflage was used to mislead the targeting of the U-Boat commanders, making it difficult for a submarine to determine the exact course of the ship to be attacked (fig. 3.36).

A secret naval camouflage unit, supervised by Wilkinson, was housed beneath the Royal Academy of Arts in London. Among the officers appointed to collaborate with this unit, there was also the artist Edward Wadsworth. Wadsworth took part in the modernist movement called Vorticism before the war, and he painted the famous *Dazzle-ships in Drydock at Liverpool* (1919). Constantly studying visual illusions by applying bidimensional patterns (curves, sloping lines, stripes) to tridimensional structures, these *camoufleurs* tested the degree of distortion of the ships using small-scale miniature models viewed through a periscope in a studio, before scaling them up to the real ship. By October 1917, the British Admiralty decided to paint all its merchant vessels in dazzle design, and the US Navy had over 1,200 merchant vessels covered in this scheme by the end of the war. When the writer Lida Rose McCabe observed camouflaged ships in New York Harbor, she affirmed: “A veritable floating salon of Cubist, Futurist and Vorticist color-feats significantly emphasized the passage of the one time derided culturists from theoretic into actual warfare!” (McCabe 1918, 316).

Compared to the previous forms of concealment, the peculiarity of WWI camouflage depended on the new types of photo-optical observation that evolved in the military context. The enhancement of innovative devices determined new “ways of scrutinizing” lands/seas/sky, which mechanically allowed a continuous motion of the eye from far to near, a constant change of



FIGURE 3.37: A 72-million-candlepower searchlight on the Isonzo (Soča) River that illuminated the Doberdo Plateau in the Italian front (*Die Woche* 1916a, 808).

scale, frame, range, and perspective. In addition to the difficulties caused by geographical features, climatic conditions, and the ever-changing position of the artifacts (the case of the U-Boat), *camoufleurs* mostly struggled to create effective patterns for the view from above. The employment of photographic devices on airplanes generated a constant risk of being observed by the enemies, which could detect military movements and secret information from the sky. As the British *camoufleur* Solomon J. Solomon reflected: “The other side of the hill no longer existed,” thanks to the powerful and sharp vision of the camera, which was “all-seeing” and “all-recording” (Solomon 1920, 1). To reduce the effectiveness of air observations and actions, the countries’ armed forces provided two main solutions. Firstly, they tried to shoot down enemy airplanes using anti-aircraft guns or dogfights. Searchlights were used at night to detect flying planes from the ground positions, and they were an ever-present subject on the news, thanks to their sensational lighting effect beamed into the sky (fig. 3.37). Secondly, fighting forces developed innovative techniques of vertical camouflage. One of the most effective methods consisted of covering possible targets (e.g., aircraft hangars) with gently sloping materials, usually wire netting interlaced with strips of canvas,

in order to disguise the natural cast shadow—which reveals the height of objects—evidently discernible from the sky. As the German expressionist Franz Marc reported in 1916, these fabrics could also be painted with colors recalling the natural environment:

I stood on a huge haystack (a fine studio!) and painted, according to Walter's expression, nine "Kandinskys" on a military tent wall. [...] The painting has quite a useful purpose: to conceal the artillery positions from aerial sight and photography, by covering them with canvas painted to roughly approximate a pointillistic system and the techniques of mimicry. The distances one has to reckon with are of course enormous, on the average of two thousand meters high—an enemy airplane never flies any lower. The photos they take from this altitude are greatly enlarged at home; one mostly discovers quadrangular pieces of tent cloth which cover the cannons and piles of munitions, etc. By painting the canvas the treacherous image is expected to be so confused and diffused, that the position cannot be recognized. The division will lend us an aviator who will test our success by taking photos. I am curious to find out what effect the Kandinskys will have at a distance of 2000 meters. The 9 tent canvases form a development from Monet to Kandinsky. (Marc 1916, 105–106)

These kinds of installations could be huge, becoming proper shelters for troops and vehicles. Although Germany amply tested and utilized the so-called "umbrella camouflage," photos of big constructions were never published. The only presence of similar types of camouflage on more modest installations in the German press showed parts of the overhanging nets suspended on bamboo or between buildings. Obscuring roads during daylight, these nets impeded aerial observation activities, hiding the passage of troops to the front (fig. 3.38).

In the book *Strategic Camouflage*, Salomon observed: "Not until we had captured a German airplane, and developed the [photographic] plates found on it, did we know what the camera was capable of in this direction" (Solomon 1920, 2). Because of this early development of aerial photography, German propagandistic strategy was all focused on advertising the role of reconnaissance photography as a new weapon of the aviation, more than showing camouflage techniques that would have suggested German inferiority to the enemies. Central in the propaganda procedure was the idea of seeing even the invisible, mastering visions at long distances by means of aerial photography. This kind of observation concerned military actions in the field, while also serving to advertise the "mechanical penetrating eye" as a constitutive aspect of the



FIGURE 3.38: Road camouflaged by nets in the south-western theater of war. (*Die Woche* 1916b, 985)

“modern” lifestyle. Thanks to the daily distribution of an extraordinarily high number of photographs from the different theaters of war, the population who was not personally at the front (elderly, women, and young generations) felt part of the national war effort and was asked to contribute to soldiers’ sacrifice in various manners (e.g., war loans). Therefore, citizens could personally follow the military operations at the front from afar with the same devices soldiers used to defeat their enemies. One of these instruments was, for instance, the stereoscope, a popular technology for public entertainment since the mid-nineteenth century. During the conflict, stereoviews of “the war zones” were sold as a way to metaphorically link those at home to their kinsmen at the front. However, the stereoscope was also used by the aerial photo interpreters for purely practical reasons, namely to transform the landscape recorded through aerial photography in a solid and tangible entity. In fact, the properties of the stereoscope, which transforms bidimensional photographs in a 3-D effect, represented a useful means to discover camouflage. Imagery intelligence in WWI consisted of black-and-white aerial photographic maps. To determine camouflage structures, the photo interpreter accurately studied surface, texture, self-shadows, and cast shadows. The stereoscope was a useful tool for identifying vertical camouflage because it emphasized all these features and

highlighted volumes. By the end of the war, stereoscopic aerial photography was termed “the worst foe of camouflage” (Ives 1920, 329).

Designing vertical camouflage required, on the one hand, to deceive the human eyes of the observer on the plane. On the other hand, *camoufleurs* also needed to understand the peculiarity of the camera (the artificial eye) in capturing the landscape, consequently tricking photo interpreters. In contrast to human visual capacity and attention, cameras produced black-and-white images with the entire field of view in focus. Specific photographic filters overcame the bluish haze that normally covers the land when seen from above: the nuance that makes landscapes appear to be composed of only a low range of hues (*ibid.*, 225). Photography, instead, exaggerated the level of brightness and contrast of the objects, offering great sharpness. Moreover, from the air, landscapes seemed to be covered by flat and abstract patterns, especially if portrayed through vertical aerial views taken with the camera axis perpendicular to the earth’s surface. Pilots and air observers were trained to recognize types of natural and artificial configurations on the ground. The photographic atlas entitled *Characteristics of the Ground and Landmarks in the Enemy Lines Opposite the British Front from the Sea to St. Quentin* (1918) was prepared by the British Intelligence Section of the RAF to train WWI pilots to see the landscape according to taxonomies. Surprisingly, some terrains described in this technical manual are designated as “FUTURIST country” and “CUBIST country.”⁵⁵ Testifying that avant-garde trends had already become conventional wisdom in England, this example also suggests that *camoufleurs* were required to utilize patterns that could blend in the geometrical abstraction of the vertical vista. In this perspective, as Franz Marc wrote in his letter, Kandinsky’s technique could suit better than a naturalistic style.

Geometrical motifs, which sometimes looked like decorative compositions, also camouflaged airplanes. The lozenge pattern that covered WWI German airplanes known as *Raute-Tarnbemalung* (literally: “diamond camouflage painting”), constituted the only exception to the taboo about the public display of German camouflage methods. Introduced in 1917, this special camouflage coloration became the distinctive scheme of the German and Austro-Hungarian Flying Corps. The lozenge camouflage of irregular and polychrome hexagonal shapes was pre-printed on the fabric before being installed on the airframe, and part of the assembly, which also include sewing and varnishing the fabric, was accomplished by groups of women. Unlike the

⁵⁵ Capitalization in original; Cf. Welchman (1988, 16–18)



FIGURE 3.39: German bright-colored camouflage fabric for WWI airplanes (reconstruction 1985).

Allied sections that largely involved women for performing various camouflage tasks, the application of camouflaged fabrics on airplanes represents the only traceable context in the German attempts at camouflage where women's work was significantly and systematically employed.

By the end of the war, the camouflage pattern was produced in two variations: bright-colored fabric in light blue, green, yellow, and pink for day-flights (fig. 3.39), and in dark-colored fabric in deep blue, green, viridian, and brown for night-flights (fig. 3.40). These patterns were used for both reconnaissance and bombing actions (Benz-Zauner 1997, 99). The achievement of an institutionalized pattern for airplanes occurred through an intense experimentation phase, which had already begun in 1912.

The geometrical motif, which almost seemed a decorative ornament, rapidly spread into the illustrated press. On the *Berliner Illustrirte Zeitung* cover of August 25, 1918, a large photograph portrayed two men working on the construction of a Fokker D-VII biplane completely covered in polygonal shapes (*Berliner Illustrirte Zeitung* 1918f, fig. 3.41). Even though the picture is in black-and-white, the polygons, mostly hexagons, are clearly painted in a variety of bright colors. Moreover, the caption, this time surprisingly

FIGURE 3.40: “Nr. 177. Bombenflugzeug”: Cigarette card of a ground crew loading bombs on a German camouflaged heavy bomber. Collectible chromo photographs representing WWI propaganda were distributed in the 1930s by the German cigarette brand Eckstein.



explanatory, clarifies: “From the construction of our new aircraft: stiffening of the wings that are provided with colorful protective painting.”⁵⁶ This is one of the rare cases in which the nationalistic word “our” is associated with concealing measures applied to German artifacts. Once again, the caption avoided referring to these patterns using the word *Tarnung* (camouflage), which had a negative connotation; Although today the German term *Raute-Tarnbemalung* identifies the lozenge pattern, the favorite expressions in the WWI press were instead *Schutzbemalung* (protective coloration) or *Schutzfärbung* (protective painting).

A very sophisticated motif such as the hexagonal camouflage, much more elaborate than the basic schemes used by the Allied air forces, was presented to the public as an expedient to drive “superb” German aviation to even better performance. Airplane camouflage was perceived as a way of increasing the ability of monitoring, detecting, and striking enemies’ targets more than a safeguard or a form of prevention from an enemy risk. For this reason, airplanes with this pattern were reproduced on postcards, magazines and volumes dedicated to aerial technology, and tinted photographs reproducing the original colors of this motif circulated even after the war.

There remained, however, a larger question of how to minimize the visibility of German aircrafts when aloft. As one prewar essay on the topic noted:

⁵⁶ My translation; original: “Vom Bau unserer neuen Flugzeuge: Versteifung der mit farbiger Schutzbemalung versehenen Tragflächen.” (*Berliner Illustrierte Zeitung* 1918f, 25 August)

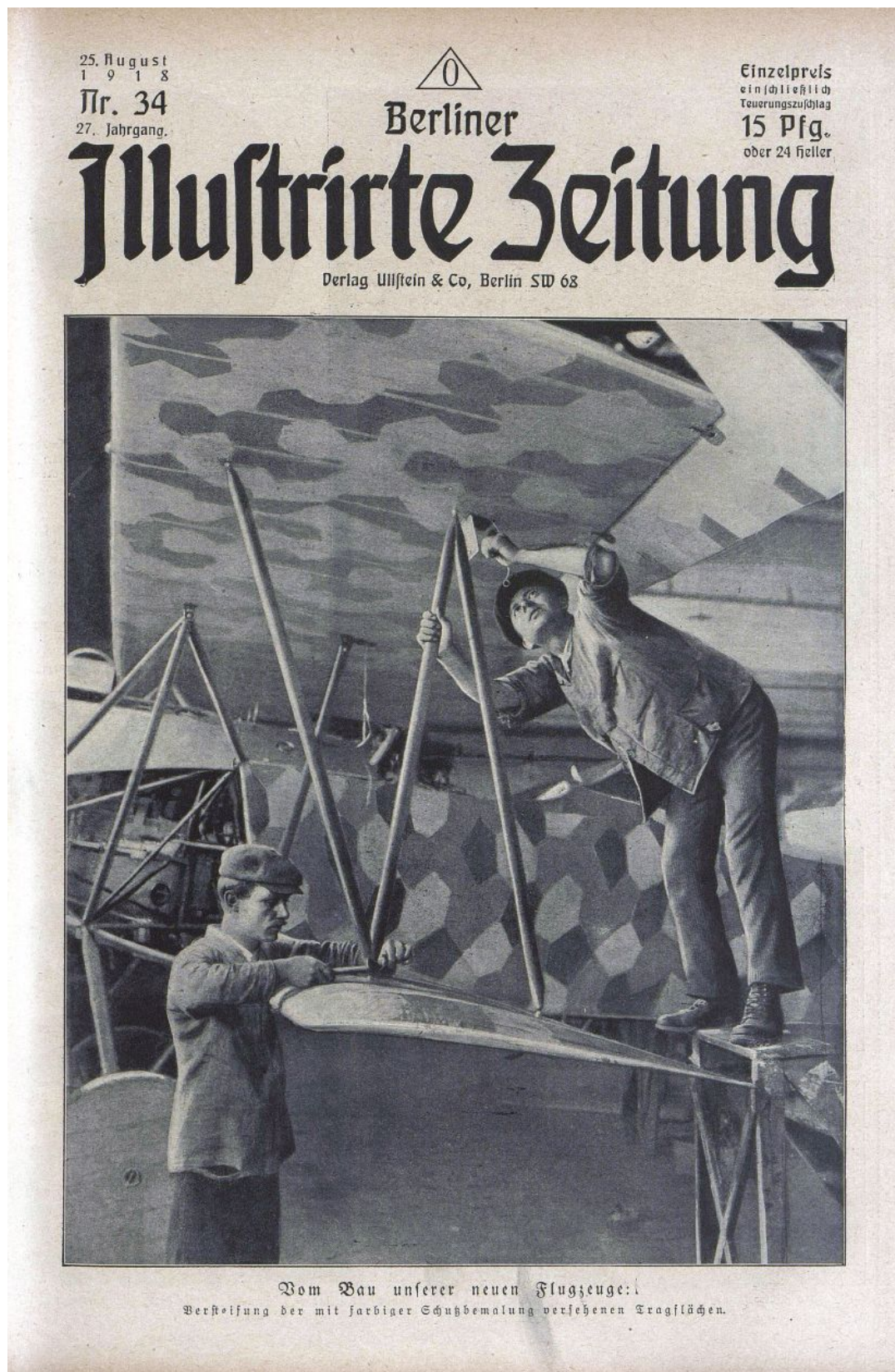


FIGURE 3.41: Construction of a camouflaged Fokker D-VII. (*Berliner Illustrierte Zeitung* 1918f, 265)

Since the aircraft is supposed to play a special role in the war, it is important that it remains undetected by the enemy for as long as possible, not only when it is in the air, but especially when it is in the proximity of the enemy or when it ascends. For this purpose, a faint gray tint, as our military automobiles possess, is the most appropriate. While a white plane reflects the sun's rays and will be visible from afar, a light gray aircraft will be much less recognizable, as this color better suits terrain and sky coloration and reflects less light.⁵⁷

Germans dealt with the problem of making the airplanes “unsichtbar” (invisible) before the conflict, even testing transparent airfoil coverings, though these did not prevent light reflection. At the outbreak of the war, Germany opted for beige or faint green color. Just as with ships, finding an adequate camouflage that could suit a moving artifact like an airplane was a difficult matter. The pattern had to conceal the airplane when its background was the terrain as well as making it invisible when it stood against the luminance of the sky.

The German army, therefore, as well as the other military forces, was dealing with the natural effects of “countershading,” a concept brought to the attention of the general public once again by Abbott H. Thayer just before the war. Some German airplane types distinguished between dorsal and ventral surface colorations in order to follow the countershading principle (Robertson 1964, 60), and it should be noted that the high-contrast black iron cross that was always painted on the white rudder was an important reconnaissance mark for related reasons. Although dichromatic colorations were not translated into black-and-white print, in the illustrated magazines the hex scheme stood out much more effectively. Thus, the constant dissemination of photos portraying airplanes, symbolizing national aerial leadership, made the lozenge motif one of the most internationally famous German camouflage schemes.

The *Jagdstaffeln*, the fighter squadrons of the German Air Force, however, completely opposed the concealing principle of hex scheme and went instead

⁵⁷ My translation; original: “Da das Flugzeug ja doch besonders im Kriege eine Rolle spielen soll, so ist es für dasselbe von Wichtigkeit, möglichst lange vom Feinde unentdeckt zu bleiben, und zwar nicht nur, wenn es sich in der Luft befindet, sondern auch ganz besonders, wenn es in der Nähe des Feindes niedergegangen ist oder aufsteigen will. Für diesen Zweck ist eine schwache graue Färbung, ungefähr wie sie unsere Militärautomobile besitzen, am geeignetsten. Während ein weißes Flugzeug der reflektierten Sonnenstrahlen wegen schon von weitem sichtbar ist, wird dies bei einem schwach grau gefärbten Apparate bedeutend weniger der Fall sein, da sich diese Farbe der allgemeinen Gelände- und Himmelfärbung besser anpaßt und Lichtstrahlen weniger gut reflektiert.” (*Deutsche Luftfahrer-Zeitschrift* 1912, 602f)



FIGURE 3.42: German triplanes Fokker Dr.I of the fighter squadron 19 painted with diverse stripes and individual emblems in an airfield in Balâtre, Belgium.

with bizarre coloration schemes. Embracing visibility instead of concealment, pilots personally painted their planes with individual schemes, symbols, and unmistakable monograms. Covering their airplanes with garish, often monochromatic, colors, these combat units intended to affirm their air superiority and announce that they were not hiding. This method was employed for precise functional and symbolic reasons: intimidating the enemies, distinguishing the foes during the confusion of the dogfight, accrediting air victories, and celebrating the flying heroes (Robertson 1964, 62; Benz-Zauner 1997, 100). One of the most popular German aces was of course Manfred von Richthofen, known in Germany as *Rote Kampfflieger* and abroad as The Red Baron, *Le diable rouge*, or *Il Barone Rosso*. When he was appointed commander of the fighter squadron *Jasta 11*, he painted his Albatros biplane completely red, starting the trend that later led von Richthofen's fighter wing *Jagdgeschwader 1* to be labeled "the Flying Circus" (fig. 3.42). The Canadian ace, R.F.C. Major Bishop, surprisingly noticed this antithesis of camouflage saying:

The scarlet machines of Baron von Richthofen's crack squadron, sometimes called the "circus," heralded the new order of things. Later, nothing was too gaudy for them. There were machines with green planes and yellow noses; silver planes with gold noses; khaki-coloured bodies with greenish-grey planes; red bodies with green wings; light blue bodies

and red wings; every combination the Teutonic brain could conjure up.
(Robertson 1964, 62)

Although these extravagant color combinations could not be observed in the photographic reproductions or periodicals of the time, the identification markings, such as stripes, monograms, and drawings, became quickly popular.

The public emphasis given to German fighter squadrons, which made flashy designs into a distinctive strength, overcame the protective character that the hex pattern assumed on the reconnaissance planes. In this perspective, once more, the German communicative strategy drew more attention to aggressive visibility than to defensive camouflage.

To sum up, the development of visual camouflage in WWI was a direct consequence of new ways of observing the land/sea/airscape enhanced by photo-optical technologies. Searchlights, periscope binoculars, and aerial cameras, “eyes of the army” among many others, were instruments that determined experimental camouflage patterns. The act of scrutinizing by means of these devices was constantly advertised in many illustrated magazines during the conflict, propagandizing the idea that the military forces could see all and record all. While horizontal observation and horizontal concealment had already been tested in previous conflicts, vertical view and consequently vertical camouflage represented the absolute novelty of WWI, together with the dazzle scheme for ships. Since WWI visual camouflage was a matter of color, tone, contrast, texture, shape, light, shade, glint, scale, and perspective many civilians from the world of art, theatre, and architecture were involved in the military camouflage units of the allied powers. When it became clear that visual camouflage depended on the correlation of different factors—geographical and climate conditions, type of warfare, quality of visual-technological observation, and psychology of human perception—*camoufleurs* tested both naturalistic and abstract motifs, which were respectively inspired by the animal world and by avant-garde movements. The assimilation of avant-garde motifs in WWI military camouflage contributed to a wider public acceptance of new directions in art. Moreover, camouflage production testifies that not only artists have been influenced by the techno-scientific enhancements that occurred during warfare, but also the fighting forces benefited from the creativity of art experimentation: in a bilateral interchange between art trends and military development. WWI visual camouflage generated multilayered environments blurring the dividing line between real and fake, natural and artificial, visibility and concealment.

However, it is crucial to notice that Germany used a very different strategy in propagandizing visibility and camouflage compared to the Allied standards. Although the German army was experimenting with methods of concealment since 1915 (but never created a specific camouflage unit), the theme of camouflage was omitted in public discourse in favor of illustrations of offensive weapons and views from aircraft, captured by the ubiquitous gaze of innovative photo-optical devices. The leading communicative strategy considered visual concealment as an act of cowardice carried out by the enemy. Airplanes covered with the disruptive lozenge motif constituted the only exception to the German taboo on camouflage. WWI propaganda admitted some photographic examples of vertical camouflage and protective colorations for airplanes because they represented innovative technological solutions expressing the modern character of the German power. The polychrome hexagonal shapes of *Raute-Tarnbemalung* and the intimidating identification marks of the *Jagdstaffeln* were two popular subjects in Germany, which symbolized the opposing concepts of concealing and manifesting.

3.4 From a Bird's-Eye View to the God's-Eye View

In the second-floor corner room of the Revoltella palace in Trieste, paintings portraying Mediterranean landscapes hang on the red silk wallcoverings. Painted by Ippolito Caffi, Massimo d'Azeglio, and Bernhard Fiedler, the canvases are part of Baron Pasquale Revoltella's vast art collection. Representations of the Mediterranean regions and the Middle East were common objects in the nineteenth-century European influential circles. Thus, their presence in the Revoltella palace does not surprise, considering the role of the Baron as an entrepreneur and financier of the Suez Canal, which he believed to be crucial for enhancing Trieste's sea trade economy.

Instead, it is curious that a moving image, a sort of video, appears among the golden painting frames with floral ornaments that match the interior cornices of the building (fig. 3.43). The ambiguous image shows a car parked while some pedestrians walk by a square. The scene is seen from an elevated position. Since the Revoltella palace is nowadays a gallery of modern art, this curious video, inscribed in an antique picture frame within the furniture of the nineteenth-century interiors, might indeed be a contemporary artwork. However, looking out the window, one notices that the square below the palace



FIGURE 3.43: Nineteenth-century camera obscura (left) close to the Massimo D'Azeglio's painting "Rovine nella campagna romana" (Ruins in the Roman Countryside, 1852) in the Red Room of Pasquale Revoltella's palace (now Revoltella Museum), Trieste.



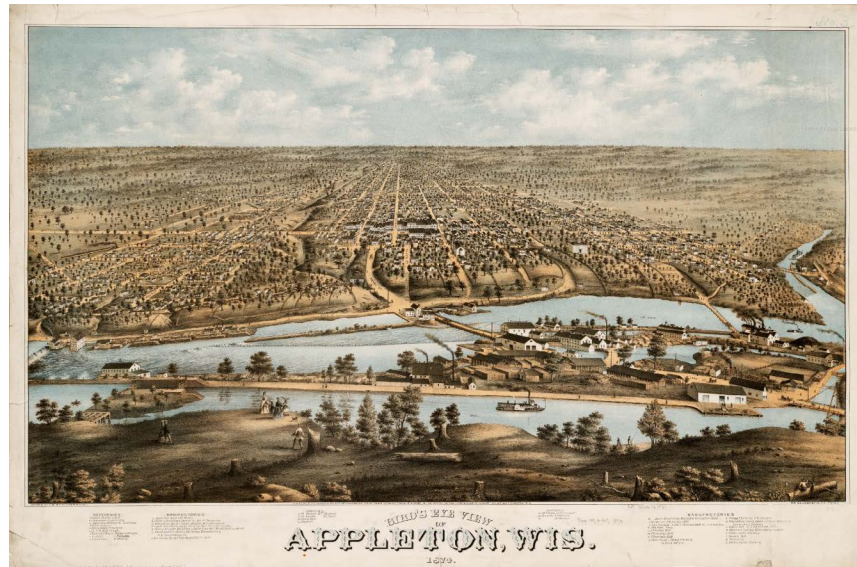
FIGURE 3.44:
Revoltella
palace from
the outside.
Two black rect-
angular holes
in the wall,
which house
the lenses of
two dark cham-
bers, are visible
from Piazza
Venezia.

impressively looks like the video, despite the horizontal flip of the scene.

The “mystery” is solved by an information panel, which explains that this ambiguous image is produced by a nineteenth-century *camera obscura* (dark chamber) installed within the wall of the building. Since the palace overlooks the harbor, Revoltella used this optical apparatus as a surveillance device to monitor the square, ships, and port operations. A second camera is positioned on the third floor of the building from which it is possible to have a complete overview of the harbor, without being noticed from the outside. Observing the neo-Renaissance architecture standing in Piazza Venezia, the Revoltella palace shows two black rectangular holes in the wall, which house the lenses of the two dark chambers (fig. 3.44).

The *camera obscura*, together with the rest of Revoltella’s optical collection, certainly testifies to the nineteenth-century positivistic approach and enthusiasm for technology, exploration, and discovery, which confidently trusted the potential of the “artificial eye.” Rather than representing the external world, these dark chambers captured a section of space, becoming instruments of surveillance. Therefore, the epistemological status of the resulting picture differed from the other images in the room. Monitoring the area from an elevated position, these devices anticipated the interplay between indirect mechanical observation, classification, knowledge, and control.

FIGURE 3.45:
Bird's eye
view of Ap-
pleton, Wis-
consin, 1874.



The genre of the bird's-eye views, namely elevated representations of cities, proliferated both in Europe and in the US in the same century: “Bird’s Eye View of Appleton Wisconsin,” “Hannover aus der Vogelschau,” “Trieste a volo d’uccello.”⁵⁸ Graphically depicting vibrant commercial centers from an imagined aerial low-angle perspective, these colored representations aimed at describing analytically, nearly topographically, the urban space (fig. 3.45). Constructing accurate aerial vistas, artists and map makers based the bird’s-eye views on existing geographical surveys, ground photographs, and city plans and models. Thanks to the detailed illustrations, the nineteenth-century bird’s-eye views are today housed in the atlas and map divisions of museums and archives. However, instead of accompanying geographical publications, these representations (paintings, engravings, and lithographic printings) were produced as independent pieces. Addressing the general public, they were mainly commissioned by businessmen, shipping companies, chambers of commerce, and other civic organizations. Moreover, these nineteenth-century bird’s-eye views can be categorized as an autonomous genre. Although representing global and unitary (but not necessarily wide) views, they differ from the panorama for two reasons: the scene is portrayed from a higher point of view; analytical techniques are used to depict the natural geography and the morphological organization of the urban and industrial features of the

⁵⁸ The “Bird’s Eye View of Appleton Wisconsin” was drawn and published by Stoner & Vogt in 1874. The illustration “Hannover aus der Vogelschau” by Carl Grote appeared in the *Illustrierten Zeitung* (Leipzig) as a large-format wood engraving drawn by R. Winkler on July 13, 1872. A cromolithography of “Trieste a volo d’uccello” was made by Alberto Rieger for Pasquale Revoltella in 1862. See Museo Revoltella, Trieste, inv. n. 920. There are numerous variations of this last motif, see Paris (2014).

city. The white profile that surrounds the scene often reports the names of the most important landmarks, which corresponds to small numbers on specific buildings within the representations. Thus, the viewer can meticulously examine the structure of the city from a new perspective: as the title at the bottom of the image distinctly reports, this is a “Bird’s Eye View of. . .”.

Art historians and media and cultural critics have explored the topic of the bird’s-eye view, showing how this visual representation of space has historically interested art, cartography, geometry, military, surveillance, meteorology, and ecology (Newhall 1969; Cosgrove and Fox 2010; Dorrian and Pousin 2013; Lampe 2013; Doosry 2014). In these publications, as into the common usage, the term bird’s-eye view becomes a synonym for an entire range of elevated vistas: panoramas (e. g. wide scenes represented from mountains and buildings), oblique views from an imaginary point in the sky, and even vertical images used in military contests. Consequently, the stylistic distinctions between different genres and their origins, as well as the variety of political, epistemological, and aesthetical specific characters, are confusingly blurry. Tracing, instead, the historical development of the bird’s-eye view, one notices that this form of representation originated in the sixteenth century. However, the definition, which refers specifically to the vision of a winged animal, only spread out in the nineteenth century.⁵⁹ Thanks to more economical printing techniques, oblique aerial illustrations flourished during this time, responding to the euphoria constituted by the first balloon ascents.

This chapter distinguishes bird’s-eye view from panorama (wider vista, not necessarily from an aerial perspective). Here I argue that aerial photography (especially vertical) produced in the WWI military contest can be categorized neither as a panoramic nor as a bird’s-eye view. Instead, it owns a distinctive and transformative character dissimilar from previous aerial representations both from an aesthetic and epistemic point of view. This character, which I prefer to call God’s-eye view, resembles the intentions of the Revoltella’s devices, namely the need for monitoring and super-visioning (seeing all - recording all - controlling all): features that were realized in WWI. The military representation of space greatly influenced not only the German but the entire Western

⁵⁹ Cf. “Bird’s-eye view ‘the view as seen from above, as if by a bird in flight,’ is from 1762.” Online etymology dictionary: <https://www.etymonline.com/word/bird>. See also the English dictionary Merriam-Webster: “First known use of bird’s-eye view: 1771” <https://www.merriam-webster.com/dictionary/bird%27s-eye%20view>. All these dictionaries have been accessed on 16/05/2021. See also: “Je n’ai fait voir les choses dans ce dernier volume [d’Essai sur l’histoire générale] qu’à vue d’oiseau” Voltaire, Lett. Richelieu, 13 mars 1765.

visual culture over the last one hundred years. In order to theorize the independence of the WWI “vertical image” from previous aerial models, it is necessary to explain the historical origin of the bird's-eye view.⁶⁰

The high-oblique aerial perspective emerged in the Renaissance: some examples are Stefano Rosselli's Florence (1472), Jacopo de' Barbari's Venice (1500), Egnazio Danti's maps of Papal Italy in the Vatican's Galleria delle Mappe (particularly the general view of the four major Italian ports of the sixteenth century, dating from the 1580s), and the printed records of the *Civitates orbis terrarum* (1572-1617). Until the Middle Ages, the privilege to look down from the sky was a prerogative of God. Only from the beginning of modernity the bird's-eye view served profane purposes: claiming territorial and economic sovereignty, promoting the prestige of a city as a flourishing trade center, encouraging a collective identity based on the natural and cultural landscape, and publicly visualizing geographical knowledge (Amad, n.d., 67; Gehring and Weibel 2014, 461). Aerial constructions used the newborn geometric perspectival techniques, leading the viewer's eye over the territory into “intimate landscape scenes” (Cosgrove 2001, 125). Offering an overall overview of a city, these aerial perspective maps facilitated spatial knowledge, meanwhile allowing the contemplation of the territory. Thus, the space was openly available to be explored, and the aerial distance emphasized a subject-object separation, in which the viewer, externally watching the scene, was the creator of the landscape (Besse 2000, 21–50).

Inscribed into the geographical knowledge established by naval and land expeditions, this new spatial conception also corresponded to the foundation of modern European cartography and landscape art (Edgerton 1975). The mutual influence of Renaissance cartography and art can be explained by the common goal of the two practices: capturing the three-dimensional tangible world on a rationally imagined bidimensional surface through a scientific system of measure. Albrecht Dürer's well-known woodcut “Artist drawing a nude” (view 181), within the treaty *Underweysung der Messung, mit dem Zirckel und Richtscheyt, in Linien, Ebnen unnd gantzen Corporen* (Instruction in measurement, with a compass and rule, in lines, planes, and solid bodies), visibly explains the joint methodology of art and cartography. In a workshop that opens

⁶⁰ In the present section, the terms vertical and oblique vistas are used mainly for the military context, while bird's-eye view refers to other types of representations made for cultural, social, economic purposes. In the last part of this section, I argue that the concept of God's-eye view might suit the description of elevated vistas produced for military or surveillance outcomes.

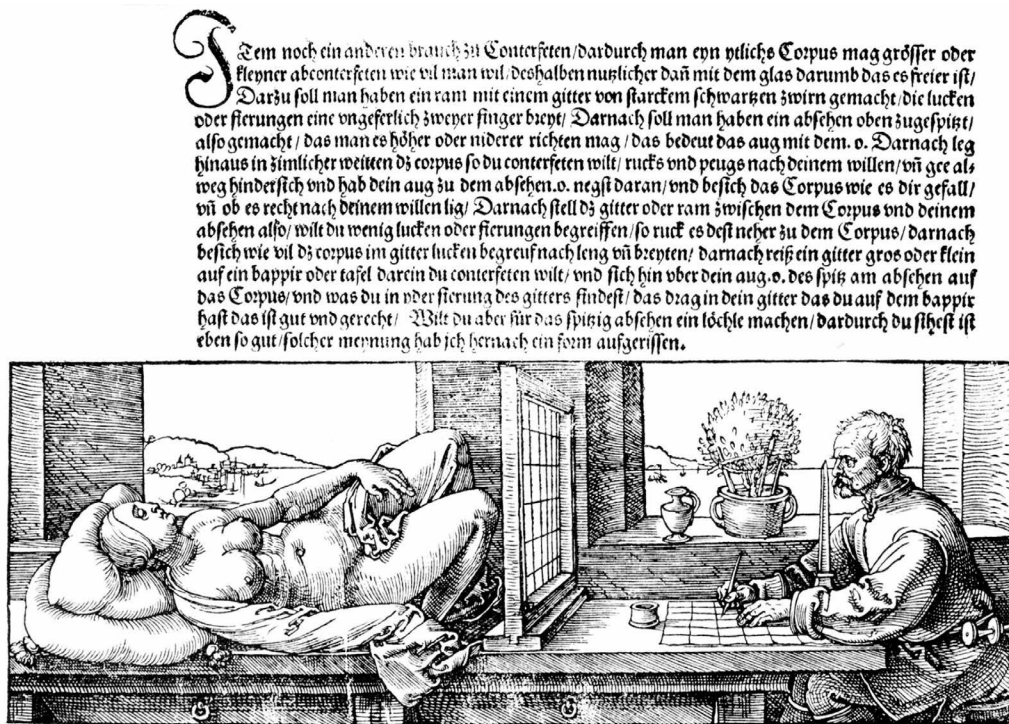


FIGURE 3.46: Albrecht Dürer's woodcut "Artist drawing a nude" in *Instruction in measurement, with a compass and rule, in lines, planes, and solid bodies* (view 181).

onto a marine scene framed by two windows, the artist portrays a model, a reclining nude with drastic foreshortening, using a perspective grid (fig. 3.46).⁶¹

Then place the object to be drawn a good distance away. Move it or bend it as you like, and view it from level *o* to ascertain that it is in the proper position, so as to please you. Then place the grid or frame between the object and the pointer. [. . .] Now begin to scan the object with your eye—point *o*—placed above the pointer, and where it points on the grid in the frame, mark it off on the grid on your sheet of paper. It will be good, and it will be correct.⁶²

The grid drastically separates subject and object and, sectioning the space, helps to frame and miniaturize the body on the flat surface of the paper. Just like a grid of meridians and parallels overlaid the globe, a perspective-grid portioned the art subject, enabling the artist to scan and analyze—essentially mapping—the shape. The distance between artist and model, together with

⁶¹ The gendered representation of art scenes, male-artist and female-nude, and the objective distance that makes the observer a voyeur is discussed by Desmond and Sheingorn (2003, 28–30), who mentioned the passage in Dürer's book [besich das Corpus wie es dir gefall/ und ob es recht nach deinem willen lig] (Dürer 1538, 434).

⁶² [Darnach leg hinaus in zimlicher weitten daz corpus, so du conterfeten wilt] (ibid., 434).

the vertical and horizontal lines that intersect the figure, allows one to rationalize, grasp, and rebuild a complex three-dimensionality. Using this method, the artist reconstructs on the sheet of paper the foreshortened figure, creating the illusion of depth that resembles the binocular human vision.⁶³ However, citing Erwin Panofsky, the linear perspective technique constructs a “fully rational,” “purely mathematical,” “infinite, unchanging, and homogeneous space” through a single immobile eye analogous to a camera, which completely differs from the space seen by the spheroidal optics of two constantly moving human eyes (Panofsky 1927, 28–29). As landscape art and mapping had corrected the spherical distortion produced by the human eyes, the newborn WWI aerial military reconnaissance eliminated the deformation of the camera lens.

The grid embodies an essential element that defines the Renaissance graphical perspective and is strictly related to the “window” paradigm. “I inscribe a quadrangle of right angles, as large as I wish, which is considered to be an open window through which I see what I want to paint” wrote Leon Battista Alberti in *De pictura* (Alberti 1435, 56). The metaphor of the viewer in front of an open window indicates that the scene is framed by means of geometry. Preventing an interpretation of reality based on the superimposition of the God's view (like in the Middle Ages), the Renaissance conception of space relied on a subjected vantage point. Thus, the bird's-eye view (oblique aerial image) also responded to the spirit of an ordered, coherent, clear, and measurable vision.

Within a positivistic frame, the nineteenth-century bird's-eye views still followed the scheme of subject/grid/object. Orthogonal reticulum and linear perspective have been essential methods to conceptualize space in Western culture.⁶⁴ Today, many fields still use these modalities: urban planning, cartography, architecture, archeology, and conservation analysis. When in WWI the military theater became enormous, it became necessary to divide it into sectors. Innumerable grids started to cover maps of different scales, determining infinite subsections that ranged from the general to the particular, following a sort of matryoshka principle. From 1915, the German Army War Survey worked with seven geodetic grids on the Western Front. They were called Belgisch (Belgian), Lille, Laon, Reims, Pont Faverger, Verdun, and Belfort Grid, respectively. They served as coordinate grids for the Field Armies' war maps (Jäger 2014).

⁶³ The invention of the grid method (called also “graticola”) was claimed by Leon Battista Alberti in *De pictura*, and it was also described by Leonardo da Vinci (Panofsky 1927, 41).

⁶⁴ For the role of the grid since antiquity, see Asendorf (1989, 119). For the use of the grid as a modernist practice, see Krauss (1979).

The subdivision of the front consented to assign specific military units to different sectors. This system also allowed airplanes to follow determined flight itineraries during aerial reconnaissance missions. In addition, photomaps reconstructed the terrain in accordance with the grids. Within this context, the bird's-eye view became less effective than the vertical aerial vista for obtaining accurate information on a specific territory. Even though the oblique aerial view consented to distribute information to commanders and soldiers not trained to read the vertical aerial perspective, the oblique aerial scenes taken at low altitudes became increasingly difficult to realize due to the enemy anti-aircraft defense. Moreover, these photographs showed only relatively small portions of the terrain, and the objects represented in the images were increasingly smaller in the distance, misleading interpreters or cartographers interested in precisely measuring definite areas. Before photos could be taken exactly perpendicular to the earth's surface (in 1915), specific devices called "transformers," e.g., the Prussian model *Grundrissbildner* and the Bavarian *Photokartograph*, served to straighten the oblique pictures, adjusting them to the desired scales without complex arithmetic and drawing operations (Jäger 2012, 7–9).

Throughout the entire duration of the war, aerial photomaps (*Luftbildkarten*), also called "Geländebilder," were made through a complex series of different photos. They were arranged in reports that also reported toponyms and a map grid. Therefore, since the "realistic" perspective (the spectacular bird's-eye views) lost relevance, one of the principal aims of military photography consisted in transforming the central perspective embodied in the photographic process into a map construction. Vertical photographs and topographical maps diverge in fact in stylistic and aesthetic features, i.e., the first is a black-and-white detailed but unfamiliar frame of landscape, whereas the second is a distilled and clear summary of signs and symbols.⁶⁵ They also reconstruct the territory in two very different ways: the aerial photo is a linear perspective as opposed to the map, which is a parallel projection (fig. 3.47). While individual points of the surface are projected perpendicularly onto the map plan, in the linear perspective process (used in aerial photography) the light rays emanated from the terrain points travel in the same cone/pyramid, entering the eye or camera lens through its apex end. The main task of photogrammetry is, therefore, to transform a projection perspective (photo)

⁶⁵ Rüdiger Finsterwalder coined this definition of map: "Die Karte ist die möglichst richtige und vollständige, durch Symbole erläuterte Darstellung der Landschaft in der zweidimensionalen Papierfläche unter Hervorhebung und Zusammenfassung des Wesentlichen." (Schneider 1974, 18)

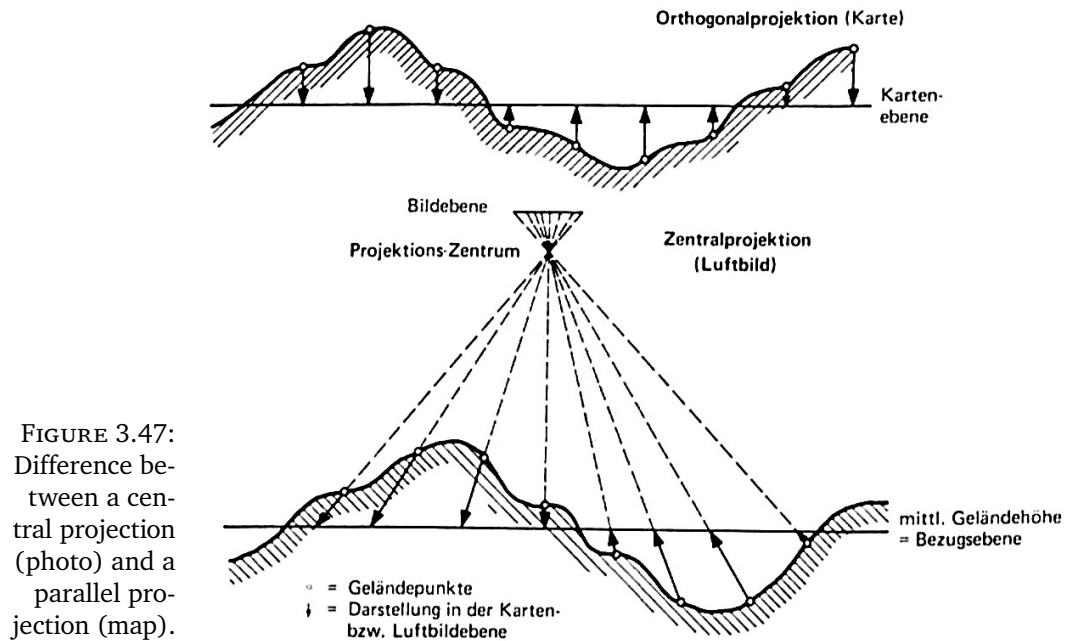


FIGURE 3.47: Difference between a central projection (photo) and a parallel projection (map).

into a parallel projection (map), in order to create a “Meßbild,” a measuring image (Schneider 1974, 83–84). Interestingly, military drawings have always been axonometric projections, namely constructions in which parallel lines never meet, therefore conserving the measurements of the objects. The *prospettiva soldatesca* (military perspective), also known as the “perspective that serves practical uses,” appeared in the Maggi and Castriotto’s military treatise in 1564, but it was already noted in the Middle Age (Maggi and Castriotto 1583, 40; Belici 1598, 1–6).

The first balloonists described the physical experience of flying as a “free, calm, levitating” ascent, in which freedom of movement into a three-dimensional open and infinite space offered a continuous change of point of view (Nadar 1900, 57). Walter Benjamin, citing the French psychologist Henri Wallon, highlighted that for millennia, the vertical had been the axis from which man looked the Earth, and only the aircraft broke this monopoly, offering novel angles, multiple points of view, and a new freedom of movement for the observer (Benjamin 1939–40, 583). In contrast to the described liberation from gravity, WWI pilots followed a precise straight line during military reconnaissance flights (making themselves easy targets for the enemy anti-aircraft fire). This rigid and risky procedure aimed at producing the most accurate aerial photomap: an object that merged the qualities of photography—functionality, automatization, production speed, and precise details—with the clear graphical analysis of the map (cf. Siemer 2007). Therefore, the vertical photographic aerial views circulating in WWI resulted

from a process in which the landscape, even though “an immense carpet without border,” remained static as observed by giant, one-eyed Polyphemus. Already in the mid-nineteenth century, Nadar described the scene he saw from a balloon, saying: “This is indeed the planisphere, since there is no perception of differences in altitude. Everything is ‘in focus’” (Nadar 1900, 58). When the monocular flying eye of the military camera replaced the binocular vision of balloonists and observers, this photo-optical technology persisted in reproducing the geometrical model of the linear perspective. However, in a second phase, the military pictures were developed, recomposed, and interpreted, becoming miniature, flat, and measurable photomaps without borders: an isotropic view (uniform in all directions).

In the analysis of modernity, montage symbolizes the redefinition of time and space that started in the late nineteenth century.⁶⁶ The montage strategy incorporated the fragmentation and multiperspectivism of the human experience, which resulted from mobility and mass production in the metropolis that created new dynamic imaginaries. Dadaists invented the artistic technique of photomontage after WWI, composing an “explosive image, a provocative dismembering of reality” (Adès 1976, 7; Stiegler 2019). This interpretation of modernity often forgets another use of photographic montage, as shown in the military photo maps. Within the military process, the multi-directional deformations of the images on the photographic plates—determined by a change of altitude of the plane, movement of the camera axis, etc.—were all calibrated in post-production in order to obtain the most uniform map. In this case, the fragments (synonym of a sense of loss) were replaced by sections (regulated cuttings). Within what we call modernity, the chaotic, nostalgic, and traumatic coexisted with an ordered and static totality produced by sectioning rather than by fragmentation.⁶⁷

Vertical aerial photography is often defined as a picture taken from nowhere (Haraway 1991; Brevern 2012). This definition occurs for two reasons. First, becoming a map (a static-fixed image produced by the dynamic activity of flying), it does not own a single point of view anymore. Second, the vertical aerial image has lost both subject and object and what remains is only the picture

⁶⁶ A reflection on the concepts of modernism, modernization, and modernity can be found in Elsaesser (2011). For an analysis of the terms collage, photomontage, and montage as peculiar representations of modernity, see Frascina (1998).

⁶⁷ For an analysis on the cultural effects of new modes of transport between the 1870s and the 1920s, see Asendorf (1989), particularly the section “Das nervöse Zeitalter.” Here the role of Futurism in theorizing experiences of speed and dislocation is clarified. See also Apollonio (1972).

plane. Essentially, following the scheme subject/grid/object, which constitutes the pictorial perspective technique, the only element that persists in vertical photography is the geometrical “armature” of the scene: the grid. Aerial mapping does not present an observer who specifically aims at an object-target. If initially the viewfinder had been an important element of aerial handheld cameras taking oblique photographs, it soon became an unnecessary part of automatic devices. Many semi-automatic camera models owned reclining viewfinders (in case the devices needed to be mounted vertically in the plane fuselage). Instead, fully automatic cameras that took fast sequences of pictures, like the German *Reihenbildner*, did not present a viewfinder. An observer who stuck his chest out of the cockpit could have an oblique vision of the terrain, whereas the vertical photo, also called in technical terms nadir image, was taken by an automatic device that recorded the terrain from a perpendicular position that the observer could not access (fig. 3.48). Thus, human vision has been replaced by camera vision, which even excluded the observer’s act of “looking through and peering into” a device (Bruhn et al. 2006). Aerial photography not only fixed on paper details that humans could not remember, but it also recorded the “non-human” point of view from which the camera took the picture. This vantage point was observable only once the photo was developed since the WWI analog mechanism did not offer the simultaneous preview of the recordings, like today’s camera LCD screen. Thus, vertical images in WWI redefined the subject-object relationship, converting the military observer into a “functionary”⁶⁸ of the monocular vision of the machine, while introducing the key role of the photo-interpreter.

Although aerial mapping supervised an area of interest (in the military context, a piece of the enemy territory), specific targets were identified only during the interpretation of the pictures. Vertical aerial photos did not show a specific object-target that could be intuitively spotted in the image (the uniform and abstract composition prevented the individuation of background and foreground); they only contained potentially valuable details. “Don’t look at the photograph, take a pencil and explore it in every part; you will notice many details that otherwise would elude your attention,” reported the English manual *Notes on the Interpretation of the Aerial Photograph* (1917).⁶⁹ Photographs

⁶⁸ The philosopher Vilém Flusser established an influential lexicon in his book *Towards a Philosophy of Photography* (1983), including “apparatus” (Apparat), “functionary” (Funktionär), “program” (Programm), and “technical image” (Technobild).

⁶⁹ See General Staff, *Notes on the Interpretation of the Aerial Photograph – revised March 1917*, His Majesty’s Stationary Office, London 1917 (Leoni et al. 2001, 49).

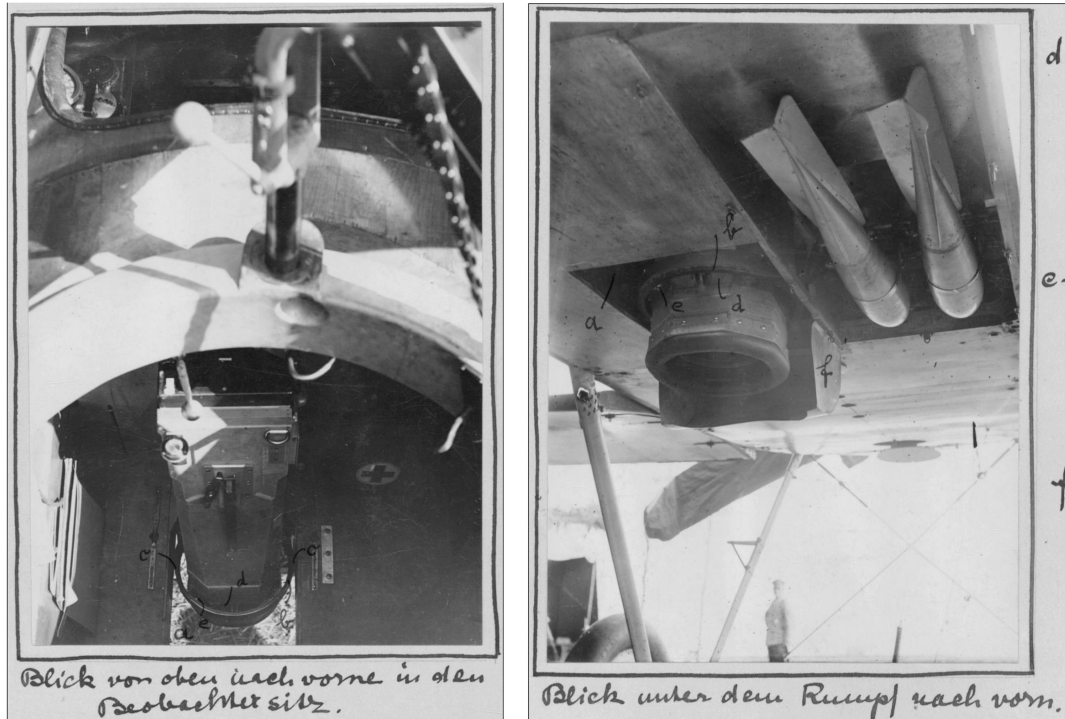


FIGURE 3.48: Installation of an aerial camera F.K. III with a focal length of 70 cm in an airplane Albatros CV 456 F 7, October 2, 1916.

could also be enlarged or seen under the microscope in order to observe objects too small for the naked eye to perceive.⁷⁰ Suspicious signs appearing on the photographic surface might need to be further investigated by comparing their shapes with other information gathered through other sources of military intelligence. A single aerial photo, taken on its own, was not enough to offer reliable military information. The continuous reference to fine details (*feine Einzelheiten*), reported in many WWI military manuals concerning aerial photo-reconnaissance, corresponded to the need to penetrate an opaque reality through an attentive reading of signs and clues. Following Carlo Ginzburg's evidential paradigm, reconstructing a complex reality through the indirect experience of traces, the photo interpreters reconstructed the enemy's tactics aiming at forecasting its future strategies (Ginzburg 2013).

Therefore, the precise knowledge of a territory emerged after an accurate reading based on specific interpretation keys. The difference between bird's-eye views and vertical photography lay in the fact that in photo-mapping, the image was not constructed, but it only acquired its aesthetic and epistemological properties when analyzed. The essential meaning of reconnaissance is

⁷⁰ See the sections "Das Doppelmikroskop" and "Mikroskopische Vergrößerungen" in Wecker ([ca. 1916]).

based on this interpretation phase, which serves to provide evidence through accurate analysis and comparison of sources. An aerial photo changes its status into an aerial reconnaissance photograph only once it has been interpreted by an analyst. As the geologist Giovanni Battista Trener suggested, the science of interpretation soon became a “methodical, patient, analytical work, based not on inductions but on positive, concrete, almost scientific elements” (Leoni et al. 2001, 34). Thus, the single picture was inscribed in a standardized system of collecting, processing, analyzing, comparing, integrating, and evaluating, which reached a technical-industrial efficiency during the war.

Scientific aerial reconnaissance methods that employ UAV-based aerial imagery and satellites originated from WWI vertical aerial photo-reconnaissance. After the war, the use of photography as a practice of intelligence collection and analysis has been defined in various ways: e.g., Allan Sekula’s “instrumental image,” Roy M. Stanley’s “work photography,” Roy MacLeod’s “information warfare,” Paul Virilio’s “watching machine,” and Harun Farocki’s “operational image,” among others. In addition to these descriptions, it has been shown earlier how vertical photography was inscribed into a process of scientific measurability, which combined the detailed monocular view of the camera, based on the geometrical model of the linear perspective, with the distinct summary of signs and symbols, typical of the map. The absence of an individual point of view of the photo maps has labeled vertical photography as a picture that comes from nowhere. The automatization of the photographic process, together with the innovative vertical position of the camera over the terrain, determined a new role for the observer who became an “operator” of the device. Although the military observers carried out manual work—pressing the button of the diaphragm opening, changing films and plates, mounting the camera in the correct position, etc.—they were excluded from the photographic process of direct observation and recording. Since pictures were produced, interpreted, and distributed by different actors, it is nearly impossible to assign to a single person any form of authorship. Analyzing the records of reconnaissance missions, one can only find out the aviation units (with the names of their commanders) involved in specific operations. Because these photographs are not attributable to a specific operator, they seemed to be taken by a non-human optical entity, which sometimes is “personified” by the airplane itself (*Flugzeugblick*). In critical and media studies concerning this topic, terms like “machine vision,” or even “organ of perception of the high command” recur, describing

a vision permeated by technology in which the human observer is not fundamental anymore (Virilio 1989, 1994).

All these elements distinguish the twentieth-century vertical aerial vista from the nineteenth-century bird's-eye view. However, there is a last aspect worth to be investigated. Moving away from the spectacular harmonious oblique views, WWI vertical aerial photography started to signify a semidivine technical power, a sort of God's-eye view.

The ground slipped away beneath me. [...] Carefully, I started to look at the area below me. People were minuscule, the houses like a child's construction kit, everything so cute and delicate. Cologne was in the background, with its cathedral that looked like a toy. It was a sublime feeling to sail over everything. Who could have touched me? No one! (Pickthall and Richthofen 2016, 11)⁷¹

Manfred von Richthofen, the most famous German ace, described his first flight with the same terminology used by many other pioneers who revealed their first experiences of looking at the ground from a distant vantage point in the sky. The reference to miniaturization, which let the elements of the city look like toys, also recurred in Nadar's account of his first balloon ascent.

It seems that an inexhaustible box of toys has been abundantly spread on this earth, the earth that Swift revealed to us in Lilliput, as if all the factories of Karlsruhe had emptied their stock there. (Nadar 1900, 58)

The impression of towering over a miniature city model accompanied the feeling of safeness at infinite "distance to escape all ugliness." This ecstatic experience of altitude, which produced in von Richthofen and Nadar a sublime feeling (*erhabenes Gefühl*), was accompanied by the analysis of utilitarian applications of the aerial view; Nadar sponsored aerostatic photography for military purposes, while von Richthofen interpreted his first flight as the beginning of a heroic adventure in the aerial warfare. Thus, the miniaturization and the clarity of sight of the aerial view, potentiated by photographic lenses and filters, allowed the realization of the "synoptic vision, rational control, planning, and spatial order" that the military required (Cosgrove 1996, 4; Scott 1998, 58). Even though using a complex and at times inaccurate mosaic of numerous

⁷¹ Cf. original: "Der Erdboden sauste unter mir weg. [...] Ich fing so sachte an, mir mal die Gegend unter mir anzusehen. Die Menschen winzig klein, die Häuser wie aus einem Kinderbaukasten, alles so niedlich und zierlich. Im Hintergrund lag Köln. Der Kölner Dom ein Spielzeug. Es war doch ein erhabenes Gefühl, über allem zu schweben. Wer konnte mir jetzt was anhaben? Keiner!" (Richthofen 1917, 45)

sections, vertical photography started to symbolize an absolute and conquering gaze. The “superhuman serenity” of aerial view (the infinite clarity from infinite distance described by Nadar) evolved into a powerful monitoring activity by means of military vertical photography. This constant super-vision has often been portrayed as an omniscient God's-eye view. Nevertheless, it also required humans to ‘train their eyes’ to recognize a world that was not readable anymore through the nineteenth-century bird's-eye view.

WWI vertical aerial reconnaissance, as the first prototype of a totalizing distant view, not only symbolized a vision from nowhere, but it also embodied a panoptic vision. However, WWI aerial reconnaissance can be defined in these terms only in relation to the etymology of the Greek word *panoptes* “all seeing.” In fact, neither Bentham's definition of *panopticon* as an “invisible omnipresence” nor Foucault's famous expression “power should be visible and unverifiable” can totally apply to WWI (and even to WWII) reconnaissance missions (Foucault 1975). Unlike the invisible ground surveillance, WWI motorized airplanes communicated their presence through a specific noise, provoking the fear that the artillery could bomb the position of the defenseless soldiers in the trenches.⁷² Thus, the aerial vision was a source of danger for the consequences it might cause, e.g., artillery indirect fire. In WWII, when strategic and terror bombings were realized (Douhet 1921), the menace of viewing or hearing an airplane was tangible in both militaries and civilians.⁷³ Nowadays, this argument is still valid for the buzz of the distant propeller of drones; only satellite imagery, among the different forms of aerial surveillance, realizes the real panoptic structure of control.

Even though WWI panoptic vision was only partially achieved, the zenithal gaze gave the illusion of viewing from any position in both time and space: the myth of the semi-divine eye of aerial reconnaissance rose to fame, linking vision/knowledge/power. Both the concepts of seeing all and seeing from nowhere aimed at the pragmatic-scientific objectivity of aerial photo-reconnaissance, which inevitably implied a sort of disembodiment. This last aspect has been largely theorized by feminist thinkers, first of all by Donna Haraway with the definition of the “god-trick” (Haraway 1991,

⁷² Cf. “[...] kam ein neuer Schrecken: der Schwarm der Flieger. [...] Wie Aasgeier hielten die grauen Vögel Ausschau nach Opfern. Arme Artillerie. Es wurde schwer, verborgen zu bleiben, leicht, zertrommelt zu werden.” (E. Köppen 1930, 132)

⁷³ In the Second World War, the Luftwaffe used sirens attached to Stuka dive bombers (designed by Junkers) to produce a screeching sound once the aircraft descended for a strike. Serving as an intimidation tactic, these horns were known as “The Trumpets of Jericho” (Jericho-Trompete) (Guardia 2014). For the effects of WWII bombing on population and their narration in German literature, see Sebald (2004).

188–96). In addition, the art historian Norman Bryson has also described the disembodied eye within the Western tradition. Bryson notices a reductive and mediated way of looking at the world through a gaze (rather than a glance) removed from the personal experience of the observer: “the act of viewing is constructed as a removal of the dimensions of space and time, as a disappearance of the body” (Bryson 1983, 96). However, the myth of the semi-divine eye of WWI aerial reconnaissance, as Eric J. Leed suggests, also needs to be read in comparison to its opposite, namely the tragedy of trench warfare. The narrowness of vision and movement and the bodily harm suffered by the infantry and artillery soldiers in the so-called mass slaughter of the trenches inevitably created the privileged (godlike) position of the distant aerial perspective. Where an immense dismemberment of the body occurred, the disembodiment of the eye remained the only escape in order to reach heroic freedom (Leed 1979, 115–62). Moreover, within the so-called automatization of the first industrial war, the increasing distance between subject (observer) and object (target) was the sign of “an immense detachment,” which is perfectly summarized in a passage of Edlef Köppen’s novel *Heeresbericht*. Scolding the field artillery volunteer Reisenger, the main character of the novel who is upset by the WWI carnage, Leutnant Römer says:

[...] if you say: I can’t do it anymore or I don’t like it anymore. This is nonsense, useless rubbish! And even if you are serious – Reisiger, you can’t say that. Honestly: has anyone ever expected you, I mean you privately, to kill? Well, I mean: We, artillerymen, are particularly lucky in this respect. We mostly shoot without even seeing where it hits and whom it hits. Right?⁷⁴

Remote killing particularly permeates contemporary wars, and today precision-guided munitions accomplish these attacks. Unmanned aerial vehicles piloted remotely by operators that interact only with screens (grid) prevent an immediate responsibility of humans in the violent act. Nowadays, the increasing detachment between subject and object (the distant view has become extraterrestrial) does not only concern warfare. The disembodiment also represents the approach of many social fields and academic disciplines.

⁷⁴ My translation; original: “[...] wenn Sie sagen: ich kann nicht mehr oder ich mag nicht mehr. Das ist Quatsch, sinnloser Quatsch! Und wenns auch Ihr Ernst ist – Reisiger, so etwas kann man nicht sagen. Ehrlich: hat Ihnen denn, ich meine, Ihnen privat, schon irgendeinmal jemand zugemutet zu töten? Also ich meine: Wir Artilleristen haben es doch gerade in dieser Hinsicht besonders gut. Wir schießen doch meistens, ohne überhaupt zu sehen, wo es trifft und wen es trifft. Stimmts?” (E. Köppen 1930, 332–33)

Despite theoretically inscribing the whole human organism within the environment, a conspicuous number of contemporary texts mention in their title the word “eye” only in its singular form: *The Ecological Eye* (Patrizio 2019), *In the Eye of the Animal* (Cox Miller 2018), *The Victorian Eye* (Otter 2008), *Apollo's Eye* (Cosgrove 2001), *A Plant's-eye View of the World* (Pollan 2002), *The Ethnographer's Eye* (Grimshaw 2001), among many others. Following the Judeo-Christian tradition of the Eye of Providence, an eye inscribed into a triangle, but also responding to the monocular point of view of the perspective technique and later of the camera, this approach often excludes positioning the direct experience of the animal (human or non-human) into space, preventing a “situated knowledge” and producing what Haraway calls “god-trick.”

Besides using the religious trope of the God's-eye view to describe WWI aerial reconnaissance, the only other metaphor that suits the military vertical image is the telescopic and predatory hawk-eyed flying vision. This description gives a definite connotation to the generic eighteenth-century bird's-eye view. The metaphorical relationship between the telescopic “hawk's-eye view” and the magnifying capacity of photography was also highlighted by the German manufacturer Zeiss, which used this analogy to advertise its patented Tessar photographic lens. The sharpness offered by this optical technology made the Tessar lenses known all over the world as the “eagle eye of the camera” (*Der Adlerauge der Kamera*) (Zeiss 1932, fig. 3.49).

Before the development of the airplane, a couple of years before the break-out of WWI, the military tried to install a camera on a bird for carrying out reconnaissance missions. In this case, however, the bird was not an eagle but a homing pigeon. Testing the invention of the apothecary Julius Neubronner, the Prussian War Ministry investigated the adaptability of pigeon photography for topographic reconnaissance through a series of assigned tasks (fig. 3.50).

Ultimately, pigeon photography did not play a fundamental role in actual warfare because the rapid technological evolution made airplanes much more reliable artifacts for carrying out aerial photo reconnaissance; Neubronner's invention was relegated in the post-war period to represent a form of curiosity and entertainment for the general public. However, analyzing the reasons for the failure of this technology in the military context helps to summarize the features that instead become the requisite of aerial reconnaissance, as it is also partially intended nowadays.



FIGURE 3.49: 1932 commercial advertisement of Zeiss Ikon for the English-speaking public.

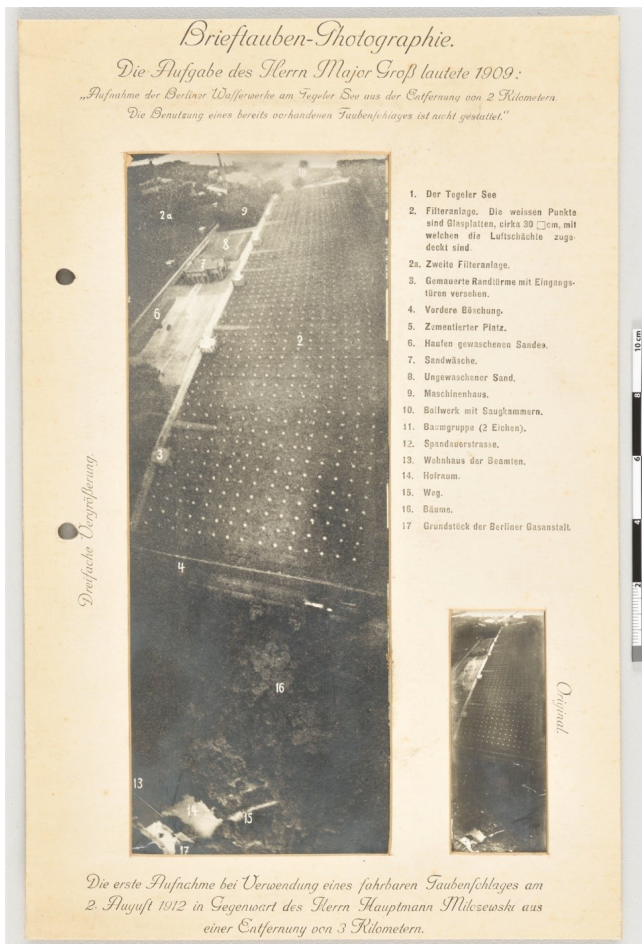


FIGURE 3.50: Julius Neubronner's experimentation with reconnaissance pigeon photography, 1909-1912. Analysis of a snapshot portraying a filtration plan on lake Tegel in Berlin.



FIGURE 3.51: Julius Neubronner's 1907 Doppel-Sport Panoramic Camera (portrait format, size of the camera: $44 \times 70 \times 40$ mm).

First, pigeon photography could only serve as an analysis of specific targets. The 1920 book of the scientist and engineer Herbert E. Ives described this method as “pinpointing single objectives,” while it was known in German as *Zielerkundung* (Ives 1920, 39; Jäger 2007, 283). In fact, small pigeon cameras excluded the employment of photography as support of cartography, which required covering a large portion of the territory. Although Neubronner designed a camera taking twelve consecutive pictures, only single-picture cameras offered sharpness and large exposed surfaces. For example, the Doppel-Sport Panoramic Camera is a half-cylinder device that exposed only one 30×80 mm film using a pivotal lens activated by a pneumatically delayed timer (fig. 3.51). A target could be photographed only by calculating the speed of the flight speed of the homing pigeons in relation to the distance of the target. Second, the immense extension of the battlefield of the Western Front required pigeons to fly various routes training them for the difficult task of reaching a mobile dovecote combined with a darkroom. Third, since a pigeon carried a maximum weight of 75 grams, cameras could not be increased in their size. Without a long focal length, it was impossible to magnify distant objects without enlarging the negative, with the result of obtaining blurry images.

These difficulties in realizing “instrumental images” led the military to abandon pigeon photography, initially considered a potential instrument for entering the enemy aerial domain not observable by stationary threatened balloons or too perilously reachable by enormous and slow dirigibles. The

telescopic and predatory hawk-eyed flying vision that the military had for a long time aimed at was finally realized with the development of the airplane. In WWI, homing pigeons continued their traditional role as carriers of messages, and yet the experimentation phase of pigeon photography is today appreciated for its unconventional and nearly avant-garde shoots, which offer the sense of freedom of undomesticated “animal” acts.

Chapter 4

Conclusion and Outlook

Beyond WWI Visualities

Having started this dissertation with a reflection on Eric Hobsbawm's periodization, it seems appropriate to conclude it with another statement from *The Age of Extremes* that found direct confirmation in the present research. In arguing that the twentieth century has been the time of common people, Hobsbawm noticed that "two linked instruments made the world of the common man visible as never before and capable of documentation: reportage and the camera. Neither was new but both entered a self-conscious golden age after 1914" (Hobsbawm 1994, 192). Exploring the German context, cultural critics, media theorists, and art historians have amply analyzed the proliferation of new visual mass media (photo-essay, political montage, photojournalism, cinema, etc.) in the "anxious times" of the Weimar Republic, after the WWI defeat of Germany in 1918. However, the present research comes to the conclusion that this well-known period of German history (1918-1933) cannot be fully comprehended without analyzing the impact of WWI militarized visualities on German culture. More specifically, the collective conception of the landscape underwent a radical transformation during the years of war. On the one hand, as described by Walter Benjamin, the physical experience of the cultural landscape changed: "A generation that had gone to school on a horse-drawn streetcar now stood under the open sky in a countryside [Landschaft] in which nothing remained unchanged but the clouds, and beneath these clouds, in a field of force of destructive torrents and explosions, was the tiny, fragile human body" (Benjamin 1936, 84). On the other hand, the attitude towards recording the landscape varied: "Day in, day out, in addition to the barrels of rifles

and guns, optical lenses were pointed at the battleground, as instruments of technical awareness" (Jünger 1930c, 24). The WWI press started to present seeing as an act of aggression, and Ernst Jünger commented on it in the inter-war period: "Today, we already have guns which are linked with optical cells; indeed, we even have flying and floating attack machines with optical control systems" (Jünger 1934a, 39; cf. Werneburg 1992, 50).

Together with Hobsbawm's text, Benjamin's and Jünger's pieces well summarize the initial hypothesis of this research. The primary assumption of this study relied on considering WWI as a transformative event that impacted all components of the representation: the object (landscape), the subject (the observer that either directly experienced the landscape or indirectly saw its picture), and the medium itself (photography). The previous chapters have investigated how the conflict shaped these three elements. This last part will summarize the main findings of this research and will give some insights into the ways in which the militarized landscape recorded in WWI influenced the main photographic tendencies of the Weimar Republic.

This research has shown that WWI militarized visualities expanded the established prewar categories of landscape. With the outbreak of the conflict, subjects, styles, and points of view on the landscape rapidly changed. The traditional canons of exotic, sublime, beautiful, pastoral, and picturesque landscapes evolved to the new categories of the excavated, perforated, lunar, lost, and toxic land (No Man's Land). The *Kriegslandschaft*, as it was already called during the war, also incorporated the urban environment. Photographs of urban centers reduced to rubble circulated widely in the print media and became a motif that accompanied the entire twentieth century. Even though the idyllic German sceneries did not disappear from WWI publications, they served to balance the disorienting militarized and destroyed landscapes with the idea of a comforting homeland.

Along with the metamorphosis traceable in the subjects of WWI landscape photography (including anticipatory forms of technological sublime found in the artillery explosions), the interesting characteristic of WWI representations lay in the organization of the photographic composition. The photographs of the Western Front displaced all the compositional elements that in the landscape painting tradition had directed the viewer's gaze across a landscape. The WWI landscape, completely transformed by unprecedented destructive technologies, lost all its landmarks. The point of view of the photographer collapsed into the *terrain-soil-ground*: an element that occupied most of the photographic

composition, limiting, at the same time, the observer's visual field. Therefore, the landscape from an all-embracing vista became a contained and bordered piece of exploited or destroyed land.

Subjects and compositions of landscape photography were not the only changes. The observer's attitude towards this form of representation was transformed by the familiarization of the German public with military photo-reconnaissance techniques. The most evident impact of WWI visualities on German visual culture can be traced by following the use of photo-reconnaissance as a propaganda tool. In contrast to most of the secondary literature on German visual studies—which contextualizes the popularity of the aerial view in the mid-twenties (Asendorf 1997; Lugon 2009, 250)¹—this study has clarified that the aerial photographic perspective amply circulated in the German mass media since 1915. Therefore, by the end of the war, the institutionalization of aerial photography as a systemic method of imagery intelligence had profoundly influenced not only the military, experts, intellectuals, and artists, but it transformed society at large. As the third chapter of the present study has shown, the so-called “nadir image” (vertical photography) represented the most significant technological and cultural innovation that WWI military reconnaissance inaugurated. Positioning automatic cameras in the fuselage of the airplane, perfectly perpendicular to the earth's surface, the military obtained vertical pictures appreciated for their scientific measurability (unlike oblique views). Even though partially comparable to maps, aerial photographs published in illustrated magazines lacked an explanatory legend, and the constant zoom in on delimited sections of the terrain, a practice used for target reconnaissance, made these pictures be perceived as a hybrid of graphic depictions and encrypted recordings.

Unlike ground representations of the landscape, aerial photographs seemed abstract, and the civilians' assimilation of these pictures required a “training of the eye” that was already boosted in wartime. WWI military aviation promoted a new way of seeing the landscape from above through the motto “Sehen ist

¹ Even though scholars have investigated the relationship between aviation and the arts, the specific impact of WWI military photo-reconnaissance on German visual culture has received little attention. Christoph Asendorf's *Super Constellation – Flugzeug und Raumrevolution* (1997) is one of the most comprehensive studies of the influence of aviation on the conception of space in the twentieth century. Even though his art-historical overview starts with Louis Blériot's flight over the English Channel in 1909, the role of WWI military photography is only briefly mentioned in the chapter “The Airplane Eye.” The first part of Asendorf's book mainly focuses on the airplane as a leitmotif of the twenties. In short, many studies admit that WWI aerial photo-reconnaissance is incorporated into the aesthetics of the Weimar Republic, but they do not investigate the specific effects of military aerial visualities in the interwar period.

Uebungssache!” (Seeing is a matter of practice!). A passage in the 1917 magazine’s article “Was der Flieger sieht,” regarding the role of the WWI aerial observer, seems to forerun essential concepts around which the cultural debate revolved in the Weimar Republic. In the interwar period, photography was regarded as an extension of the eye that made the photographers ‘see more.’

Seeing is a matter of practice! The untrained eye carelessly overlooks what is of the most significant importance, of the greatest attraction, for the artist’s eye. The layman sees a graceful landscape, the general staff officer beholds a wealth of tactical possibilities.²

While the last sentence immediately contextualizes the act of seeing in the military field, the first part of this quotation, emphasizing the terms *eye*, *training*, and *seeing*, introduced the idea of expanding the limit of ordinary perception through an analytic, rational, and detached gaze. The conquest of air, achieved through the airplane, offered the emotion to defy the laws of gravity and a sense of supremacy over what remained anchored to the earth. However, the new vision on the landscape could not be completely realized without the support of photographic devices. Even though WWI magazine articles aimed at romanticizing the heroic figure of the aviator, they also promoted the description and visualization of a new type of landscape that, leaving behind the pictorial style, was dominated by objectivity and documentary accuracy: “Nein, Phantasie gibts beim Beobachter nicht” (No, there is no imagination in the observer) (*Berliner Illustrierte Zeitung* 1917b, 131). Thus, WWI militarized visualities accustomed the German observer to interpret the landscape through verticalization, objectification, functionality, measurability, and detachment.

“Deromanticizing” the subject also constituted the principle of German modernist photography (*Neue Sachlichkeit* and *Neues Sehen*) in Weimar Germany. The present dissertation’s findings suggest that the *Kriegslandschaft* can be considered a precursor of the *Maschinenlandschaft*, a popular photographic motif in the twenties. The transformative capacity of WWI photography changed habits of vision, influencing people’s ways of observing and absorbing the landscape and determining the aesthetic canons of German society in the following period of the Weimar Republic.

² My translation; original: “Sehen ist Uebungssache! Achtlos übersieht das nicht geschulte Auge, was für das Künstlerauge von größter Wichtigkeit, von stärkstem Reiz ist. Der Laie sieht eine anmutige Landschaft, der Generalstabsoffizier erblickt darin eine Fülle taktischer Möglichkeiten.” (*Berliner Illustrierte Zeitung* 1917b)

Reading primary literature about photography in the Weimar Republic, it is not difficult to find a certain continuity between ideas propagandized through military photo-reconnaissance and art or commercial photography styles in the interwar period. The coherence between these two periods appears both in the subjects photographed and in the attitude toward the photographic medium. Books dedicated to aerial photography proliferated in the twenties, comprehending Erich Ewald's *Deutschland aus der Vogelschau* (1925), Karl Brunner's *Weisungen der Vogelschau* (1928), Nikolaus Creutzburg's *Kultur im Spiegel der Landschaft* (1930), Eugen Diesel's *Das Land der Deutschen* (1931), E. G. Erich Lorenz's *Die Welt von oben* (1932), and *Deutsches Land in 111 Flugaufnahmen* (1933) published in the series *Die Blauen Bücher*. Many of these "Bilderratlas" highlighted the capacity of aerial photography to explain the national topography, making the science of the landscape (geography) popular outside the academic context. This photographic approach, which Olivier Lugon describes as a "documentary style," contrasted the prewar pictorialist photography.

Both aerial and ground photography after 1918 increasingly focused on the so-called *Kulturlandschaft*, the German territory modified by human intervention (Lugon 2009, 228–70).³ For example, Eugene Diesel's geographical survey *Das Land der Deutschen* (1931) consisted of three sections: *Die Naturlandschaft* (the natural landscape), *Die Kulturlandschaft* (the cultural landscape), and *Die Maschinenzeit* (the time of machines). Starting from the two geographical categories of *Natur-Kulturlandschaft* (Krebs 1923), Diesel distinguished another class of landscapes, the *Maschinenlandschaft*, that included metropolitan and industrial areas. The dichotomy between rural-provincial and industrial-urban provoked contrasting reactions, such as pessimistic nostalgia and technological optimism, which Weimar photobooks eloquently presented (Heiting and Jaeger 2014; Stokoe 2018).

In his theory of photography, Wolfgang Kemp highlights the distinctive European character of photographic realism in the twenties (compared to the American trends), which was based on a strong identification between technological and natural structures. The photographic comparison of artificial and natural details revealed the intrinsic principles (true nature) of crafted objects, interpreting technology as a second nature rather than a threat (W.

³ The book became so famous that a new affordable edition appeared in 1933, with a changed introduction supporting the nationalistic idea of German landscape promoted by the rising Nazi regime.

Kemp 1979, 17–23).⁴ Only photography could teach people to see the “technological beauty” (*Technische Schönheit*) embodied in the engineering art and characterized by functionality instead of fantasy (H. Günther 1929). The photographic medium succeeded in this purpose thanks to the new visual language of New Objectivity (*Neue Sachlichkeit*): the clinical description of technical, natural, and artificial objects focusing on the clarity of structures and the precise material details of the subject.⁵ A comparison between the *Kriegslandschaft* described in the present study and the circulation of the so-called *Maschinenlandschaft* in the Weimar Republic represents a compelling line of research, which suggests the analytical and detached approach of WWI landscape recordings as the precursor of the Weimar visual trends. Interestingly, the *Maschinenlandschaft* constitutes an iconographic motif that did not appear in the popular press and mass-produced publications in the prewar years.

The Weimar Republic certainly saw a reconfiguration of the aesthetics of war, making it difficult for historians to understand the real influence of war landscape photography, circulating between 1914 and 1918, on German visual culture. In the interwar period, the consistent republication of war photography taken from the WWI press occurred for the most disparate reasons. Thus, original photographic material was isolated from its initial publishing context. For instance, the photographed landscape published in the WWI press appeared again in *Großer Bilderatlas des Weltkrieges* (Konsbrück 1919), *Krieg dem Kriege!* (Friedrich 1924), *Das Antlitz des Weltkrieges: Fronterlebnisse deutscher Soldaten* (Jünger 1930a),⁶ among many other photobooks.

WWI demonstrated that photography could be employed as a military and political weapon, both for surveilling the enemy and influencing public opinion through propaganda. The influential traveling exhibition *Film und Foto (FiFo,*

⁴ Attributing to technology and nature equal status, modernist photography emphasizes a unified principle of *form* in every natural, crafted, and industrial object. Formal and structural analogies are evident, for example, in Renger-Patzsch’s book *Die Welt ist Schön* (The World is Beautiful), published in 1928 and considered an iconic work of the New Objectivity photographic movement. Even the logo printed on the blue cover of this book, designed by Alfred Mahlau, consisted of a schematized agave and conifer next to a telegraph pole (Renger-Patzsch 1928).

⁵ One of the most representative photographers of the *Neue Sachlichkeit* is Albert Renger-Patzsch. The series of photographs taken in the Ruhr district is particularly interesting for understanding his approach to landscape. See *Ruhrgebiet Landschaften* (Renger-Patzsch et al. 1982; cf. Lugon 2009).

⁶ WWI photography appears in all five Jünger’s photo collections: *Luftfahrt ist not!* (Aviation is Necessary!) (1929), *Das Antlitz des Weltkrieges: Fronterlebnisse deutscher Soldaten* (The Face of the World War: Front Experiences of German Soldiers) (1930a); *Hier spricht der Feind: Kriegserlebnisse unserer Gegner* (Here Speaks the Enemy: War Experiences of our Opponents) (1931b), *Der gefährliche Augenblick* (The Dangerous Moment) (1931a); and *Die veränderte Welt* (The Transformed World) (1933).

Werkbund 1929) dedicated a wide section to this last function of photography, presenting John Heartfield's photomontages through the wall statement "Benuetze Foto als Waffe" (Use Foto as a Weapon). Moreover, modern approaches to the medium comprehended what photo historian Beaumont Newhall classified as the three main features of photography contained in *FiFo*: "experimental," "anonymous," and "straight" (Newhall 1955).⁷ While Newhall included the photographs of the *Neue Sachlichkeit* (e.g., Renger-Patzsch's work) within the approach called straight photography,⁸ he positioned the aerial view (together with astronomic, microscopic, medical, zoologic, and forensic photography) among the type of automatic anonymous recordings used in science.

However, "photographs taken looking up and down" also constituted a large section of the Bauhaus photographic experimentation. Theorized by the avant-garde photographer Moholy-Nagy, the New Vision (*Neues Sehen*) movement promoted a purely optical experience expanding the limits of human vision. Abolishing pictorial and imaginative patterns, "the photographic camera can either complete or supplement our optical instrument, the eye" (Moholy-Nagy 1925, 28). In other words, the "photo-eye" (*foto-auge*) subordinated the human eye (Roh 1929). This attitude to the medium can also be found in the anonymous poster of the exhibition, which showed a photographer from below (fig. 4.1).⁹ With the camera ready to take a picture, the photographer looks at a subject at the ground level. A complementary press image also appeared on the cover of the photobook *Es Kommt der Neue Fotograf* by Werner Gräff (1929), a volume advertised as an appendix of the exhibition. A walking man photographed from above became the unified paradigm of the Weimar avant-garde (fig. 4.2).

The vertical view, inaugurated with the target military reconnaissance, was

⁷ Straight photography was a genre originated in the US in the first decade of the twentieth century and internationally popularized by the end of the 1920s. In contrast to pictorialism, it employed simplicity and austerity as descriptive features. Promoted by Alfred Stieglitz, the straight photography movement included Paul Strand, Edward Steichen, and Edward Weston, among others.

⁸ Analyzing the German photographic panorama between the twenties and the thirties, Olivier Lugon distinguishes between the New Objectivity and the following "documentary style." According to Lugon, the German documentary style became popular around 1930, after the exhaustion of photographic modernism, bringing back into fashion the landscape genre. In doing so, Lugon suggests that the first part of Renger-Patzsch's work (still lifes and machine pictures) can be ascribed to the New Objectivity movement, while his landscapes under the documentary style (Lugon 2009, 228–70). Beaumont Newhall did not make this distinction and considered Renger-Patzsch's work at *FiFo* (his landscapes were not included in this exhibition) attributable to the American category of straight photography. For a critical comment on Olivier Lugon's approach see Brückle (n.d.).

⁹ The photo included in the poster of *FiFo* has been attributed to Willi Ruge (Heiting and Jaeger 2014, 2:46-48).



FIGURE 4.1: Poster of the exhibition *Film und Foto*, Stuttgart 1929 (Photo by Willi Ruge).

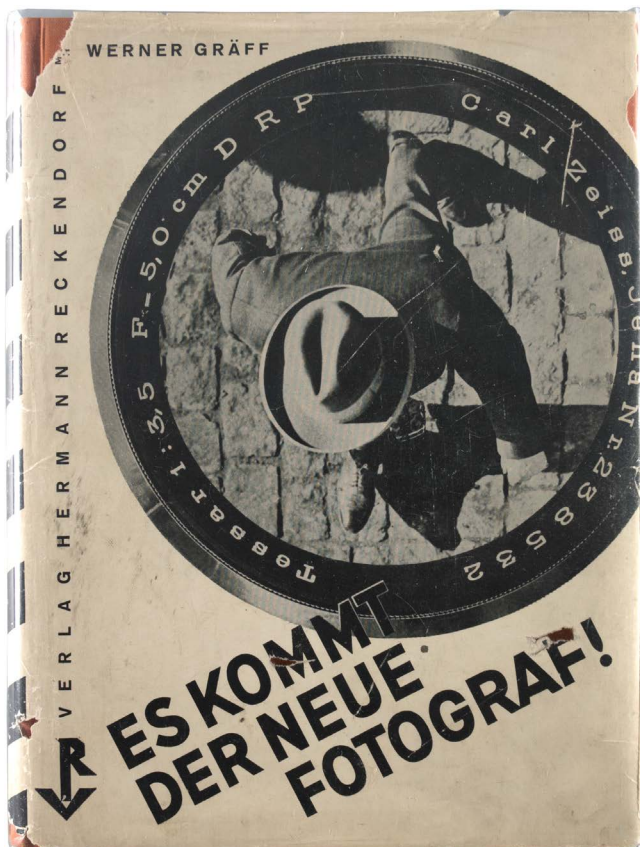


FIGURE 4.2: Cover of Werner Gräff's book *Es kommt der neue Fotograf!* (*Here comes the new photographer!*). Berlin: H. Reckendorf, 1929.

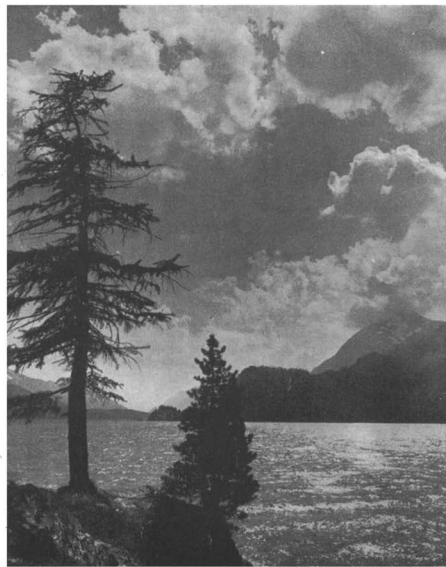
transposed in the urban landscape starting from 1919 (cf. fig. 3.11 on page 135). The all-embracing view on the landscape was replaced by the specific selection of details, and the observer needed to get trained to new angles and unexpected perspectives.¹⁰

The present research implicitly interrogates the academic studies that address the photographic tendencies in the Weimar Republic about the relation between the photographed German landscape in the interwar period and the previous aesthetics of WWI. German modernist photography (*Neue Sachlichkeit* and *Neues Sehen*) has been described as dominated by a sort of rationalism and technological mysticism. Nevertheless, how did this style of photography respond to the “instrumental image” and “mechanical reading” of WWI aerial reconnaissance? In 1975, Allan Sekula criticized the curatorial identification of Edward Steichen’s service in the aerial photo-reconnaissance division of the American Expeditionary Forces as the origin for modernist straight photography (Sekula 1984).¹¹ However, the present study has demonstrated that selected logistical images produced for military intelligence operations lost their indexical function immediately after they were taken. In Germany, even more than in other countries, military pictures became aesthetic, symbolic, and political objects distributed through mass-produced publications already in 1915.

Affirming that studies about German visual culture in the Weimar Republic should consider WWI military photography in approaching modernism, the present book also asks how war defeat and destruction of the landscape during the conflict influenced some forms of pictorialism and traditional landscape photography—still present in mass-produced illustrated books and amateur photography during the entire interwar period (Hielscher 1924). After all, even the pungent Kurt Tucholsky returned to an intact German nature at the end of his “picture-book” *Deutschland, Deutschland über Alles* (1929). In contrast to the previous chapters of his book that had tackled the city, Tucholsky included at the end pictures of romantic landscapes without industrialization and urbanization. This photographic material served to affirm the attachment

¹⁰ The idea of the photographic medium as a tool for training the human vision permeated the visual culture of the Weimar Republic, and it was a concept later absorbed by National Socialist propaganda. The catalog of the Goebbels-organized photographic exhibition *Die Kamera: Ausstellung für Fotografie, Druck und Reproduktion* (1933) reported: “Wer viel fotografiert, lernt sehen. Das Auge des Fotografen sieht Menschen und Dinge anders, als das des Laien: Er ist gleichsam immer darauf aus, ein Objekt für das Objektiv zu finden” (Kaul 1933, 9).

¹¹ Edward Steichen, a fine art photographer famous in the American art scene and a pioneer of fashion photography, commanded the Photographic Section of the American Expeditionary Forces in WWI and became responsible for the Naval Photographic Institute in WWII.



229

Sie reißen den Mund auf und rufen: „Im Namen Deutschlands . . .!“ Sie rufen: „Wir lieben dieses Land, nur wir lieben es.“ Es ist nicht wahr.

Im Patriotismus lassen wir uns von jedem übertreffen — wir fühlen international. In der Heimatliebe von niemand — nicht einmal von jenen, auf deren Namen das Land grundbuchlich eingetragen ist. Unser ist es.

Und so widerwärtig mir jene sind, die — ungekehrte Nationalisten — nun überhaupt nichts mehr Gutes an diesem Lande lassen, kein gutes Haar, keinen Wald, keinen Himmel, keine Welle — so scharf verwahren wir uns dagegen, nun etwa ins Vaterländische umzufallen. Wir pfeifen auf die Fahnen — aber wir lieben dieses Land. Und so wie die nationalen Verbände über die Wege trommeln — mit dem gleichen Recht, mit genau demselben Recht nehmen wir, wir, die wir hier geboren sind, wir, die wir besser deutsch schreiben und sprechen als die Mehrzahl der nationalen Eel — mit genau demselben Recht nehmen wir Fluß und Wald in Beschlag, Strand und Haus, Lichtung und Wiese: es ist unser Land. Wir haben das Recht, Deutschland zu hassen — weil wir es lieben. Man hat uns zu berücksichtigen, wenn man von Deutschland spricht, uns: Kommunisten, junge Sozialisten, Pazifisten, Freiheitliebende aller Grade; man hat uns mitzudenken, wenn „Deutschland“ gedacht wird . . . wie einfach, so zu tun, als bestehe Deutschland nur aus den nationalen Verbänden.

Deutschland ist ein gespaltenes Land. Ein Teil von ihm sind wir. Und in allen Gegenseiten steht — unerschütterlich, ohne Fahne, ohne Leierkasten, ohne Sentimentalität und ohne gezücktes Schwert — die stille Liebe zu unserer Heimat.



231

FIGURE 4.3: Two pages of Kurt Tucholsky's book *Deutschland, Deutschland über Alles* (1973), from the chapter *Heimat*.

of Germans to *Heimat* (homeland): a feeling that went beyond the nationalist pathos of the militaristic bourgeois. On the contrary, the identification with the native landscape belonged to all the fragments of German society, even those that, loving their country, criticized its politics and social order (Tucholsky 1929, 226–31; cf. Paenhuisen 2009). The very final photo of the book subverts the reassuring symbol of the rural *Heimat*: a train cuts through the landscape and speeds towards the viewer (fig. 4.3).

Leaping ahead to the time of climate crisis and digital surveillance, the present study may provide some final insights into possible compelling lines of research. If the evolution of the iconography of the landscape is an indicator of different human approaches toward the environment, this study has shown that toxic and irreparably lost landscapes were realized and visualized for the first time in WWI. Nowadays, photographic images of the terrain and satellite images of the Earth have become indispensable to many industrial and scientific fields: archaeology, surveillance, Earth sciences, environmental research, forensic analysis, web mapping services, and entertainment. Knowing the origin of the “vertical image” as a systemic method of aerial imagery and

its impact on the visual culture of the past can also help to trace the historical and epistemological implications of a modality of vision that still prominently affects contemporary life.

German Summary

Forschungsgegenstand und Fragestellungen

Die vorliegende Dissertation untersucht die fotografischen Sichtweisen im Ersten Weltkrieg und beschreibt, wie der militärische Konflikt die bereits gut etablierten Kanons der Vorstellung, Darstellung und Wahrnehmung von Landschaft in Deutschland beeinflusste. Die Ausgangshypothese dieser Studie ist, dass die Landschaftsfotografie, ein künstlerisches Genre, das bereits im 19. Jahrhundert populär war, im Ersten Weltkrieg eine große Transformation erfuhr. Dieser Annahme folgend wird untersucht, wie sich der Konflikt auf alle Komponenten der Darstellung auswirkte: das Objekt (die Landschaft), das Subjekt (der Betrachter, der die Landschaft entweder direkt erlebte oder indirekt ihr Bild sah) und das Medium selbst (die Fotografie).

Der erste moderne Krieg, als welcher er damals (1914-1918) oft propagiert wurde, bediente sich eines industriellen Apparates, in dem die Technik die vier klassischen Elemente (Luft, Wasser, Erde und Feuer) symbolisch beherrschte und ihre natürlichen Strukturen nutzen konnte, um ihre Kräfte auf den Feind zu entfesseln. Die Automatisierung und zerstörerische Wirkung der neuen Offensivwaffen, vom Maschinengewehr bis zum schweren indirekten Feuer, gipfelte in der Vergiftung der gegnerischen Umwelt durch chemische Waffen. Der drastische Wandel militärischer Strategien und Taktiken wurde auch durch die zunehmende Ausdehnung des Konflikts bestimmt, der dank des effektiven Einsatzes des Flugzeugs und des U-Boots erstmals den Luft- und Unterwasserraum mit einschloss.

Seit seinem Ausbruch wurde dieser Konflikt öffentlich als ein außergewöhnliches Ereignis betrachtet, das es verdiente, durch die realistischste, demokratischste und industriellste (in einem Wort: "modernste") visuelle Praxis, die damals zur Verfügung stand, festgehalten zu werden: die Fotografie. Die Kamera schien das perfekte Instrument zu sein, um die neuartige Art der Kriegsführung festzuhalten, die mit der Automatisierung technologischer Prozesse, der

erhöhten Feuerkraft und Reichweite von Geschützen sowie der Erprobung neuer tödlicher Waffen Schritt hielt. Die Fotografie im Ersten Weltkrieg hatte drei Hauptfunktionen, die von verschiedenen Akteuren ausgeführt wurden. Soldaten nutzten die Kamera, um private Erinnerungen zu schaffen (sentimentaler Wert), der Staat regelte die Verbreitung von Fotografien, um die öffentliche Meinung zu beeinflussen und die Moral der Truppen zu stärken (Propaganda) und die Armee setzte die Fotografie ein, um Informationen über den Feind zu sammeln (visuelle Aufklärung).

Die vorliegende Dissertation analysiert einen unterrepräsentierten Aspekt innerhalb der Fotogeschichte des Ersten Weltkriegs, nämlich die in Deutschland zwischen 1914 und 1918 zirkulierende Landschafts- und Territorialfotografie. Da Darstellungen von Brutalität und Tod in der Regel zensiert wurden, war eine der wichtigsten visuellen Kategorien während des Ersten Weltkriegs die Landschaft selbst, die im Allgemeinen als neutrales Motiv verstanden wurde, obwohl sie von anspielenden Bedeutungen durchdrungen war. Diese Art der Militärfotografie enthielt unerwartete Motive, die in der Vorkriegszeit noch überhaupt nicht zum Kanon gehörten. Die großflächige Ausbreitung der fotografischen Darstellungen umfasste zerstörte ländliche Gebiete nach einer Schlacht, in Schutt und Asche gelegte Stadtlandschaften, toxische Umgebungen und in verschiedene Teile gegliederte Terrains, die aus der Luft interpretiert und analysiert werden konnten.

Die Beschränkung der vorliegenden Untersuchung auf den deutschen Kontext erlaubt es, sich auf eine Industriemacht zu konzentrieren, in diesem Fall Deutschland. Das Deutsche Kaiserreich spielte nicht nur eine zentrale Rolle in dem Konflikt, sondern war auch einer der Hauptproduzenten der fotooptischen Technologie und setzte diese weitgehend in seinem militärtechnischen Apparat ein. Darüber hinaus besaß Deutschland eine einflussreiche philosophische, literarische und künstlerische Tradition (z.B. die deutsche Romantik) in der Darstellung der Mensch-Natur-Beziehung, welche einen klar definierten visuellen Code bestimmte, der durch neue militarisierte Landschaften und Visualitäten in Frage gestellt wurde.

Indem sie untersucht, wie die Landschaft im Deutschland des Ersten Weltkriegs fotografisch dargestellt wurde, wird diese Dissertation die Frage beantworten: Inwieweit haben die fotografischen Darstellungen des Ersten Weltkriegs das kollektive Bild und Verständnis der Landschaft in Deutschland beeinflusst?

Forschungsstand

Die fotografierte Landschaft, die im Ersten Weltkrieg in Deutschland zirkulierte, wurde bisher nur selten in ihrer Vielfalt und Komplexität jenseits der unkenntlichen "Mondlandschaften" von Flandern analysiert. Vielmehr haben sich Wissenschaftler mit Bezug auf den Ersten Weltkrieg weitgehend auf andere Kategorien der Fotografie konzentriert: private Aufnahmen von militärischer Kameradschaft und propagandistische Bilder von modernen Waffen, die die Überlegenheit der deutschen Streitkräfte repräsentierten. Dies sind sicherlich zwei wichtige Motive in einer allgemeinen Rekonstruktion des fotografischen Phänomens des Ersten Weltkriegs. Ein drittes Genre, nämlich die vielfältig fotografierte Landschaft des Ersten Weltkriegs, wurde jedoch aufgrund der allgegenwärtigen Zwischenkriegspropaganda vernachlässigt, so wurden nur wenige, ausgewählte Bildinhalte des Ersten Weltkriegs der Öffentlichkeit präsentiert und ihnen wurde so eine neue Bedeutung verliehen.

In den letzten Jahrzehnten haben Wissenschaftler, die sich mit dieser Epoche der deutschen Geschichte auseinandersetzen, zunehmend die Rolle der Kamera als Apparat der militärischen Aufklärung beschrieben. Diese Studien sind vor allem in die Mediengeschichte des Krieges eingeschrieben, die auch dank des hundertjährigen Jubiläums des Ersten Weltkriegs größere Aufmerksamkeit erhielt. Dennoch ist die Zentralität der Landschaftsfotografie der Epoche des Ersten Weltkriegs bisher nur in wenigen Aufsätzen und Buchkapiteln untersucht worden. Diese Sekundärliteratur hat entweder die streng geheime geländeorientierte Aufklärung oder die einfühlsame Landschaftsfotografie, die in privaten Alben gefunden wurde, betont. Keines dieser Landschaftsmotive hat in den Medien weite Verbreitung gefunden. Außerdem untersuchen diese Studien typischerweise bodengebundene Landschaftsfotografie und Luftbildfotografie als zwei getrennte Einheiten. Neben diesen beiden Tendenzen in der Forschung sind außerdem eine Reihe von kulturwissenschaftlichen Studien zu nennen, die sich auf militärische Raumvorstellungen konzentrieren und in den letzten Jahrzehnten durch den sogenannten *spatial turn* Auftrieb erhalten haben. Diese Arbeiten konzentrieren sich jedoch nicht spezifisch auf die Fotografie und privilegieren die körperliche Erfahrung von Soldaten im militärischen Raum.

Stattdessen analysiert die vorliegende Studie die Zirkulation fotografierter Landschaften in den Massenmedien in der Zeit des Ersten Weltkriegs, ohne a

priori Bildmaterial auszuschließen, das ursprünglich aus privaten, propagandistischen oder militärischen Gründen produziert worden war. Im Ersten Weltkrieg ist die Trennung zwischen diesen drei Kontexten unscharf.

Methoden und Quellen

Mit einer disziplinübergreifenden Methodik, die Militärtechnik, Landschaftsstudien und visuelle Kultur miteinander verwebt, untersucht diese Dissertation die Produktion und Zirkulation von Landschaftsfotografie in den deutschen Printmedien: Sie analysiert illustrierte Zeitungen, Postkartensammlungen, fotografische Almanache, Bilder, die für Bildungszwecke erstellt wurden, und militärische Bilder, die heute in verschiedenen deutschen Kriegsarchiven untergebracht sind.

Primärquellen, die in der Lage waren, alle Bevölkerungsschichten zu erreichen, sind für diese Forschung unerlässlich. Populäre Massenzeitschriften wie die *Berliner Illustrierte Zeitung* und ihre Konkurrentin *Die Woche* sowie die *Münchener Illustrierte Zeitung* werden von 1912 bis 1920 systematisch untersucht, um die Entwicklung fotografischer Motive vor, während und in den Jahren unmittelbar nach dem Krieg nachzuzeichnen. Darüber hinaus wird eine große Anzahl von illustrierten Publikationen, die speziell während des Konflikts erschienen sind, eingehend untersucht, z.B. *Illustrierte Geschichte des Weltkrieges*, *Die große Zeit: Illustrierte Kriegsgeschichte*, *Großer Bilderatlas des Weltkrieges*, etc.

Der Fokus auf die materiellen Qualitäten der fotografischen Reproduktionen ist ein entscheidender Aspekt, der diese Studie ausmacht. Technologische Elemente und materielle Erfahrungen der Fotoproduzenten und -konsumenten des frühen 20. Jahrhunderts helfen, Landschaftsdarstellungen in einen greifbaren Wettbewerb zu stellen. Ferner trugen praktische Notwendigkeiten, fotooptische und drucktechnische Innovationen sowie technologische Beschränkungen wesentlich dazu bei, die ästhetischen Merkmale von Fotografien zu definieren.

Die Dissertation untersucht auch, wie spezifische fotooptische Artefakte (Soldatenkameras, Maschinengewehrkameras, Brieftauben-Panoramakameras, Fliegerkameras), fotografische Techniken (Stereoskopie und Fotomosaikartierung) und visuelle Täuschung (Tarnung) die militärischen Aktivitäten herausforderten und gleichzeitig die Wahrnehmung und Konzeption der Landschaft durch die Zivilbevölkerung neugestalteten.

Aufbau der Dissertation

Die Dissertation gliedert sich in zwei Hauptteile, die der Einleitung folgen. Der erste Teil analysiert Darstellungen der Landkriegsführung, die in den Primärquellen als emphatische Darstellungen beschrieben werden. Der zweite Teil untersucht die Darstellungen des Luftkriegs, der erstmals abstrakte Darstellungen des Geländes vorschlug, indem er den Blickpunkt vertikal in den Himmel legte. Im Ersten Weltkrieg wurde das Land in der Tat sowohl von "oben" als auch von "unten" fotografiert. Das Nebeneinander dieser Bilder in der Presse bestimmte eine kontinuierliche Spannung zwischen der Abstraktion, die die Luftaufnahmen boten, und den einfühlsamen Darstellungen des Schlachtfeldes am Boden.

Diese Unterteilung, die sich aus der Analyse von Primärquellen ergab, bezieht sich auch auf das berühmte Werk des Kunsthistorikers Wilhelm Worringer, der 1907 *Abstraktion und Einfühlung: Ein Beitrag zur Stilpsychologie* schrieb. Nach Worringer sind Abstraktion und Einfühlung die beiden grundlegenden Impulse, die die kulturelle Erfahrung kennt, und die beiden Pole der künstlerischen Praxis. Diese Dissertation reflektiert implizit diese "Psychologie des Stils" in Bezug auf die Modalitäten, die die deutsche Propaganda des Ersten Weltkriegs bewusst oder unbewusst bei der Verbreitung militarisierter Landschaftsdarstellungen einsetzte, mit dem Ziel, zwei ästhetische Tendenzen (empathisch und distanziert) gegenüber dem Krieg zu konstruieren.

Obwohl das U-Boot eine neue Technologie in der modernen Kriegsführung und ein zentrales Thema in der deutschen Propaganda des Ersten Weltkriegs war, waren maritime Landschaftsfotografien in der Bildsprache des Großen Krieges unterrepräsentiert (im Zweiten Weltkrieg werden sie stattdessen zentral sein). Dies erklärt das Fehlen dieses Themas in der vorliegenden Studie.

Die Veränderung in den Schemata der Landschaftsdarstellungen des Ersten Weltkriegs, die die folgenden Debatten über die Beziehung zwischen Mensch und Umwelt tiefgreifend beeinflusste, macht den Ersten Weltkrieg zu einem expliziten Moment des Übergangs zwischen zwei unterschiedlichen epistemologischen und ästhetischen Konzeptionen der Landschaft. Diese Metamorphose wird auch in den Überschriften der Schlussabschnitte der einzelnen Kapitel durch die Präpositionen "von...bis" hervorgehoben (1.3 *Vom "Kriegsmaler" zum künstlichen Auge*, 2.3 *Von der Landschaft zum Niemandsland*, 3.4 *Von der Vogelperspektive zur Gottesperspektive*).

Ergebnisse

Diese Forschung zeigt, dass die militarisierten Visualitäten des Ersten Weltkriegs die etablierten Vorkriegs-Kategorien der Landschaft erweiterten. Mit dem Ausbruch des Konflikts änderten sich die Themen, Stile und Sichtweisen auf die Landschaft rapide. Der traditionelle Kanon von exotischen, erhabenen, schönen, pastoralen und pittoresken Landschaften entwickelte sich zu den neuen Kategorien des ausgegrabenen, durchlöcherten, mondartigen, verlorenen und toxischen Landes (Niemandland). Die Kriegslandschaft, wie sie schon während des Krieges genannt wurde, bezog auch die städtische Umwelt mit ein. Fotografien von in Schutt und Asche gelegten urbanen Zentren kursierten in den Printmedien und wurden zu einem Motiv, das das gesamte 20. Jahrhundert begleitete. Auch wenn die idyllischen deutschen Landschaften nicht aus den Publikationen des Ersten Weltkriegs verschwanden, so dienten sie doch dazu, die desorientierenden militarisierten und zerstörten Landschaften mit der Idee einer tröstlichen Heimat auszugleichen.

Neben der Metamorphose, die in den Subjekten der Landschaftsfotografie des Ersten Weltkriegs nachweisbar ist (einschließlich der antizipatorischen Formen des technischen Erhabenen, die in den Artillerieexplosionen zu finden sind), lag das interessante Merkmal der Darstellungen des Ersten Weltkriegs in der Organisation der fotografischen Komposition. Die Fotografien der Westfront verdrängten alle kompositorischen Elemente, die in der Tradition der Landschaftsmalerei den Blick des Betrachters auf eine Landschaft gelenkt hatten. Die Landschaft des Ersten Weltkriegs, die durch noch nie da gewesene zerstörerische Technologien völlig verändert wurde, verlor all ihre Orientierungspunkte. Der Standpunkt des Fotografen kollabierte mit dem Terrain, dem Boden, einem Element, das den größten Teil der fotografischen Komposition einnahm und gleichzeitig das Gesichtsfeld des Betrachters einschränkte. So wurde die Landschaft von einem allumfassenden Blick zu einem eingeschlossenen und eingegrenzten Stück des ausgebeuteten oder zerstörten Landes.

Nicht nur die Motive und Kompositionen der Landschaftsfotografie änderten sich. Die Einstellung des Betrachters zu dieser Darstellungsform wandelte sich durch die Gewöhnung der deutschen Öffentlichkeit an die Techniken der militärischen Fotoaufklärung. In der Sekundärliteratur aus dem Feld der deutschen Visual Studies gibt es die häufig vertretene Forschungsmeinung, dass sich die Popularität des Luftbildes in der Mitte der 1920er Jahre kontextualisierte. Im Gegensatz dazu verdeutlicht diese Studie jedoch, dass die luftbildliche Perspektive bereits seit 1915 in den deutschen Massenmedien stark verbreitet

war. Daher hatte die Institutionalisierung der Luftbildfotografie als systemische Methode der Bildaufklärung bis zum Kriegsende nicht nur Militärangehörige, Intellektuelle, Künstler und Experten tiefgreifend beeinflusst, sondern die Gesellschaft insgesamt verändert. Das so genannte "Nadir-Bild" (senkrechte Luftbildaufnahme) stellte die bedeutendste technologische und kulturelle Neuerung dar, mit ihr begann die militärische Aufklärung des Ersten Weltkriegs. Die Aneignung dieser abstrakten Bilder durch die Zivilbevölkerung erforderte eine "Schulung des Auges", die den deutschen Beobachter daran gewöhnte, die Landschaft durch Vertikalisierung, Versachlichung, Funktionalität, Messbarkeit und Distanzierung zu interpretieren.

"Deromantisierung" des Subjekts war auch das Prinzip der deutschen modernistischen Fotografie (*Neue Sachlichkeit* und *Neues Sehen*) in der Weimarer Republik. Die Ergebnisse der vorliegenden Dissertation legen nahe, dass die Kriegslandschaft als Vorläufer der Maschinenlandschaft gelten kann, die in den 1920er Jahren ein beliebtes fotografisches Motiv war. Die transformative Kraft der Fotografie des Ersten Weltkriegs veränderte Sehgewohnheiten, beeinflusste die Art und Weise, wie die Menschen die Landschaft beobachteten und aufnahmen und bestimmte den ästhetischen Kanon der deutschen Gesellschaft in der Zeit der Weimarer Republik.

List of Figures

| | | |
|------|---|----|
| 1.1 | Source: Staatliche Museen zu Berlin, Art Library – Photothek Willy Römer | 25 |
| 1.2 | (Weise 1989, 26). Source: Landesbildstelle Berlin | 28 |
| 1.3 | (Osborn 1927, 282). Source: Bibliothek - Deutsches Museum | 29 |
| 1.4 | (Hermann 1916, 803–4). Source: coll. La contemporaine | 30 |
| 1.5 | (<i>Berliner Illustrierte Zeitung</i> 1916i, 805–6). Source: coll. La contemporaine | 31 |
| 1.6 | Source: Archiv - Deutsches Museum, Munich, LR00350, Bildnummer 5803 | 34 |
| 1.7a | 1917 German Propaganda Poster designed by Fritz Erler. Lithography (58,1 x 43,7 cm). Source: Deutsches Historisches Museum, Berlin, Inv.-Nr.: P 57/1438.4 | 39 |
| 1.7b | (<i>Berliner Illustrierte Zeitung</i> 1917a, 216). Source: coll. La contemporaine | 39 |
| 1.8 | (Schulze 1915). Source: Bibliothek - Deutsches Museum | 40 |
| 1.9 | (Werner and Baumgärtner 2014, 231). Source: Bibliothek - Deutsches Museum | 41 |
| 1.10 | (Brieger 1918). Source: coll. La contemporaine | 42 |
| 2.1 | Source: Bayerisches Hauptstaatsarchiv- Kriegsarchiv: BayHStA, Bildsammlung Pressefotos 289 | 50 |
| 2.2 | (<i>Kriegsbilder 1914 - 15</i> 1915, 14). Source: Bibliothek - Deutsches Museum | 51 |
| 2.3 | (<i>Berliner Illustrierte Zeitung</i> 1915e, 409). Source: coll. La contemporaine | 52 |
| 2.4 | Source: Bayerisches Hauptstaatsarchiv- Kriegsarchiv: BayHStA, Bildsammlung Pressefotos 289 | 53 |
| 2.5 | (Lindeboom 1918, 72). Source: Bayerische Staatsbibliothek | 55 |
| 2.6 | (Expertus 1919, 63). Source: Bayerische Staatsbibliothek | 55 |
| 2.7 | (<i>Berliner Illustrierte Zeitung</i> 1914d, 565). Source: coll. La contemporaine | 58 |
| 2.8 | (<i>Die Woche</i> 1917a, May 12). Source: Bayerische Staatsbibliothek | 58 |

| | | |
|-------|---|-----|
| 2.9 | Object Inventory Number: 78291. Source: Deutsches Museum, München | 58 |
| 2.10 | (<i>Berliner Illustrierte Zeitung</i> 1915e, 410). Source: coll. La contemporaine | 63 |
| 2.11a | (<i>Berliner Illustrierte Zeitung</i> 1915e, 409). Source: coll. La contemporaine | 64 |
| 2.11b | (<i>Daily Sketch</i> 1915, 1). Source: Bayerische Staatsbibliothek | 64 |
| 2.12 | (Zervigón 2017, 70). Woodblock print illustration. Source: Bayerische Staatsbibliothek | 66 |
| 2.13 | Schaar & Dathe, Trier, Image No. 106, Source: Europeana, Image No. 6731 | 70 |
| 2.14 | Source: Fotoarchiv Hoffmann B.5, Image No. hoff-4725 | 72 |
| 2.15 | (Dewitz 2013, 140). Source: Bayerische Staatsbibliothek | 75 |
| 2.16 | Schaar & Dathe, Trier, Image No. 403, Source: Author | 79 |
| 2.17 | Schaar & Dathe, Trier, Image No. 742, Source: Author | 79 |
| 2.18 | Schaar & Dathe, Trier, Image No. 2464, Source: Author | 79 |
| 2.19 | Schaar & Dathe, Trier, Image No. 112, Source: Author | 80 |
| 2.20 | Postcard postally used in 1903, Source: Author | 81 |
| 2.21 | Schaar & Dathe, Trier, Image No. 106, Source: Europeana, Image No. 6731 | 85 |
| 2.22 | (Bölsche 1915, 16–17). Source: Author | 90 |
| 2.23 | (Bölsche 1915, 90–91). Source: Author | 92 |
| 2.24 | (Bölsche 1915, 57). Source: Author | 92 |
| 2.25 | (Bölsche 1915, 80–81). Source: Author | 93 |
| 2.26 | (Bölsche 1915, 42–43). Source: Author | 93 |
| 2.27 | (<i>Berliner Illustrierte Zeitung</i> 1916h, 243). Source: coll. La contemporaine | 96 |
| 2.28 | (<i>Die Große Zeit: Illustrierte Kriegsgeschichte</i> 1915–18, 2:211). Source: Bayerische Staatsbibliothek | 97 |
| 2.29 | (<i>Berliner Illustrierte Zeitung</i> 1916d, 474). Source: coll. La contemporaine | 98 |
| 2.30 | (<i>Berliner Illustrierte Zeitung</i> 1915, 40). Source: coll. La contemporaine | 102 |
| 2.31 | (Flemming 2004, 95) | 103 |
| 2.32 | (<i>Berliner Illustrierte Zeitung</i> 1918b, 52). Source: coll. La contemporaine | 105 |
| 2.33 | (Bock 1917, 341). Source: Bayerische Staatsbibliothek | 106 |
| 2.34 | (<i>Die Woche</i> 1916c, 1473). Source: Bayerische Staatsbibliothek | 108 |
| 2.35 | (<i>Berliner Illustrierte Zeitung</i> 1916j, 259). Source: coll. La contemporaine | 109 |

| | |
|---|-----|
| <i>LIST OF FIGURES</i> | 233 |
| 3.1 (Neubronner 1909, 1). Source: Bibliothek des Deutschen Museums | 117 |
| 3.2 (<i>Münchener Illustrierte Zeitung</i> 1913b, 133). Source: Bayerische Staatsbibliothek | 119 |
| 3.3a Source: Bundesarchiv, Bild 183-R27851 | 120 |
| 3.3b Source: U.S. National Archives and Record Administration, E-6401 | 120 |
| 3.3c (Hardesty 2015, 91). Source: USASC | 120 |
| 3.4 (<i>Die große Zeit: Kriegsgeschichte 1915 – 1918</i> 1917, 349). Source: Bayerische Staatsbibliothek | 125 |
| 3.5 (<i>Berliner Illustrierte Zeitung</i> 1916e, 507). Source: coll. La contemporaine | 127 |
| 3.6 (<i>Berliner Illustrierte Zeitung</i> 1916c, 6). Source: coll. La contemporaine | 128 |
| 3.7 (<i>Münchener Illustrierte Zeitung</i> 1917b, 22). Source: Bayerische Staatsbibliothek | 129 |
| 3.8 (<i>Münchener Illustrierte Zeitung</i> 1917a, 84). Source: Bayerische Staatsbibliothek | 130 |
| 3.9 Junkers-Luftbild. Source: Dessau-Archiv Bernd Junkers | 131 |
| 3.10 (<i>Berliner Illustrierte Zeitung</i> 1917b, 130–31). Source: coll. La contemporaine | 133 |
| 3.11 (<i>Berliner Illustrierte Zeitung</i> 1919, 544). Source: coll. La contemporaine | 135 |
| 3.12 (<i>Berliner Illustrierte Zeitung</i> 1914c, 248). Source: Bayerische Staatsbibliothek | 138 |
| 3.13 Source: British Library. https://www.bl.uk/collection-items/section-of-the-rotunda-leicester-square | 139 |
| 3.14 Source: Science Museum A127914. Photo number: L0057559 | 141 |
| 3.15 (<i>Münchener Illustrierte Zeitung</i> 1917c, 34). Source: Bayerische Staatsbibliothek | 142 |
| 3.16 (Diemer 1915, 219). Source: coll. La contemporaine | 145 |
| 3.17 (<i>Rhein-Panorama von Mainz bis Köln</i> 1901). Source: Bibliothek - Deutsches Museum | 145 |
| 3.18 (Gehrts 1918, 1092–93). Source: Bayerische Staatsbibliothek | 149 |
| 3.19 (Kommandeur der Flieger 14 1917). Source: Deutsches Museum, Munich, Archive, CD 80907 | 151 |
| 3.20 (<i>Deutsche Kriegszeitung</i> 1917, 3). Source: Universitätsbibliothek Heidelberg | 153 |
| 3.21 (<i>Die Woche</i> 1917b, 710–11). Source: Bayerische Staatsbibliothek | 155 |
| 3.22 (<i>Berliner Illustrierte Zeitung</i> 1918e, 138). Source: coll. La contemporaine | 155 |

| | | |
|------|---|-----|
| 3.23 | Feldluftschifferabteilung 1.- Rundbild Mortelje - Verlorenhoek (Ypern), 29. Mai 1916. Source: Bundesarchiv PH 18/227 | 156 |
| 3.24 | (<i>Berliner Illustrirte Zeitung</i> 1918d, 248). Source: coll. La contemporaine | 160 |
| 3.25 | Source: Deutsches Museum, München, Archiv, 23921 | 161 |
| 3.26 | (<i>Berliner Illustrirte Zeitung</i> 1915a, 301; <i>Berliner Illustrirte Zeitung</i> 1916a, 21; <i>Berliner Illustrirte Zeitung</i> 1916g, 541). Source: coll. La contemporaine | 163 |
| 3.27 | (<i>Berliner Illustrirte Zeitung</i> 1918f, 267). Source: coll. La contemporaine | 165 |
| 3.28 | (<i>Berliner Illustrirte Zeitung</i> 1918c, 116). Source: La contemporaine | 166 |
| 3.29 | (<i>L'illustration. Journal Universel</i> 1920, 16). Source: Bayerische Staatsbibliothek | 170 |
| 3.30 | (<i>The Sphere. An Illustrated Newspaper for The Home</i> 1918, 85). Source: Bayerische Staatsbibliothek; André Mare's ink and watercolour painting <i>Le canon de 280 camouflé</i> (The Camouflaged 280 Gun), ca. 1917. Source: Wikipedia Public Domain | 171 |
| 3.31 | (<i>Deutsche Luftfahrer-Zeitschrift</i> 1918, 26). Source: Bibliothek - Deutsches Museum | 172 |
| 3.32 | Source: Imperial War Museums, (UNI 8312) | 173 |
| 3.33 | (<i>Berliner Illustrirte Zeitung</i> 1915b, 100). Source: coll. La contemporaine | 177 |
| 3.34 | (<i>Berliner Illustrirte Zeitung</i> 1915c, 317). Source: coll. La contemporaine | 177 |
| 3.35 | (<i>Berliner Illustrirte Zeitung</i> 1918a, 306). Source: coll. La contemporaine | 178 |
| 3.36 | Source: Dazzle Print Collection, Print no. 72, Digital Commons @ RISD | 179 |
| 3.37 | (<i>Die Woche</i> 1916a, 808). Source: Bayerische Staatsbibliothek | 180 |
| 3.38 | (<i>Die Woche</i> 1916b, 985). Source: Bayerische Staatsbibliothek | 182 |
| 3.39 | Source: Deutsches Museum, München, Archiv, R5443-02 | 184 |
| 3.40 | Source: "Der Weltkrieg" collection (1937: 52) | 185 |
| 3.41 | (<i>Berliner Illustrirte Zeitung</i> 1918f, 265). Source: coll. La contemporaine | 186 |
| 3.42 | Source: Deutsches Museum, München, Archiv, 23775 | 188 |
| 3.43 | Source: Author | 191 |
| 3.44 | Source: Author | 192 |
| 3.45 | Source: Boston Public Library, Norman B. Leventhal Map Center Collection (06_01_001855) | 193 |

| | |
|---|-----|
| <i>LIST OF FIGURES</i> | 235 |
| 3.46 (Dürer 1538, 434). Source: Bibliothek - Deutsches Museum | 196 |
| 3.47 (Schneider 1974, 18). Source: Bibliothek - Deutsches Museum | 199 |
| 3.48 Source: Generallandesarchiv Karlsruhe 456 F 7 Nr. 114 Foto 22-23 | 202 |
| 3.49 (Zeiss 1932) | 208 |
| 3.50 Object Inventory Number: 53199Z3. Source: Deutsches Museum, Archiv, München | 208 |
| 3.51 Object Inventory Number: 53200T1. Source: Deutsches Museum, Archiv, München | 209 |
| 4.1 Source: MoMa Collection, Object number 415.1988. URL: https://www.moma.org/collection/works/6654 | 218 |
| 4.2 Source: MoMa Object:Photo. Modern Photographs: The Thomas Walther Collection 1909–1949 at The Museum of Modern Art. URL: https://www.moma.org/interactives/objectphoto/publications/769.html | 218 |
| 4.3 (Tucholsky 1929, 229, 231). Source: Bibliothek - Deutsches Museum | 220 |

List of Abbreviations

| | |
|------------------------|---|
| A.O.K. | Armeeoberkommando (Army Higher Command) |
| BIZ | Berliner Illustrierte Zeitung (Berlin Illustrated Magazine) |
| BUFA | Bild- und Filmamt (Photo and Film Office) |
| B.Z. | Berliner Zeitung |
| f | Focal Length |
| F.K. | Fliegerkammer (Aircraft Camera) |
| ILA | Internationale Luftschiffahrt-Ausstellung (International Aviation Exhibition Frankfurt 1909) |
| Kogenluft | Kommandierender General der Luftstreitkräfte (Commanding General of the Air Service) |
| Lt. | Leutnant (Lieutenant) |
| M | Mark (former German currency) |
| M.G.-Kamera | Maschinengewehrkamera (Machine-Gun Training Camera) |
| MIZ | Münchener Illustrierte Zeitung (Munich Illustrated Magazine) |
| Oblt.z.S. | Oberleutnant zur See (Naval Senior Lieutenant) |
| OHL | Oberste Heeresleitung (Supreme Army Command) |
| Pfg | Pfennig (former German coin) |
| Rb. | Reihenbildner (Military Aerial Surveying Camera) |
| S. & D., T. | Schaar & Dathe, Trier (German postcard printer) |
| WWI | World War I, First World War |
| WWII | World War II, Second World War |

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LR00385: Luftbilder Erster Weltkrieg

LR00386: Luftbilder Erster Weltkrieg

LR00387: Luftbildaufklärung im Ersten Weltkrieg

LR01911: Luftschiffe Postkarten

LR01948: Ballonflugbücher, Luftschiffpostkarten und Fotos, Briefe Schedl, Luftschiffahrt in Satire und Witz

LR02117-01: Rosemüller, Friedrich: Beilagen zu "Fotoalbum Militärflugzeuge Erster Weltkrieg"

LR02149: Sammlung Erster Weltkrieg Leutnant Fritz Liebig (*7.8.1896)

LR00084: Camouflage, Bemalung, Tarnanstrich, Anstrich

LR00893: Sondermarkierungen der k. und k. Jagdflugzeuge 1916-1918

LR11229: Typen und Hersteller Deutschland: Zeppelin-Werke (Friedrichshafen / Staaken)

NL 310 / vorl. Nr. 002: Nachlass Franz Kneer (Junkers Luftverkehr)

Bildstelle

165/1: 570. Foto und Film / Fototechnik 20. Jahrhundert: Kameras / Mittelformat

168/2: 570. Foto und Film / Kinematografie: Geschichte Messter

288: 740. Luftfahrt / Fluggerätetechnik

300/1: 740. Luftfahrt / Schwerer der Luft, Geräte mit Antrieb: A (Albatros)

305: 740. Luftfahrt / Geräte mit Antrieb, Fokker: Anfänge bis D-13

305/1: 740. Luftfahrt / Geräte mit Antrieb, Fokker E und weitere Modelle

313/1: 740. Luftfahrt / Geräte mit Antrieb, Rumpler

Plansammlung - Abteilung Photos

BA 171: Gruppe 10 Luftbildwesen

BA 173: Gruppe 10 Erdkunde, Flieger-Aufnahmen Ausland

BA 175: Gruppe 10 Erdkunde, Ballon-Aufnahmen Deutschland, Schweiz

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Bildsammlung Rundblicke (WK) Best.Nrn. 6-7, 10, 17, 61, 66-79

Panoramabildern in den Archivbeständen BayHStA, Bildsammlung Diapositive und BayHStA, Bildsammlung Rundblicke und BayHStA, Übungsfliegerabteilung Sonthofen Schrägaufnahmen und Senkrechtaufnahmen im Archivbestand BayHStA, Übungsfliegerabteilung Lager Sonthofen

BayHStA, Bildsammlung Negative, Flieger

BayHStA, Bildsammlung Negative, Fliegerabteilungen

BayHStA, Bildsammlung Negative, Luftschiffer

BayHStA, Dias und Negative Luftaufnahmen

BayHStA, Fliegerbeobachterschule Schleißheim

BayHStA, Fliegerbeobachterschule Schleißheim, Bildmappen

BayHStA, Makronegative

BayHStA, Übungsfliegerabteilung Grafenwöhr

BayHStA, Übungsfliegerabteilung Lager Lechfeld

BayHStA, Bildsammlung Palästina

BayHStA, BS Pressefotos

BayHStA, GK II. AK (WK) 948

BayHStA, Kav.rgt. (WK) 1688

Flieger, Luftschiffe, Ballone U. Fliegerschutz 1. Teil .Inf.Div

Flieger, Luftschiffe, Ballone U. Fliegerschutz 2. Teil .Inf.Div

Flieger, Luftschiffe, Ballone U. Fliegerschutz 3. Teil .Inf.Div

Infanterie-Divisionen WK 7715 Pionierwesen

Pioniere H St WK 474

TSW Technische Sonderformationen und Wirtschaftsformationen WK 421

Hauptstaatsarchiv Baden-Württemberg, Generallandesarchiv Karlsruhe

Findbuch 456 F 7: Generalkommando XIV. Reservekorps - Nr. 114 Flieger- und Luftfahrzeuge

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Brieftauben-Panoramakamera "Doppelsport" von Julius Neubronner (1907) Inv. Nr. 53200T1 oder 53200T3

Spreizenkamera Westentaschen-Tenax - Ersteller: Goerz, Berlin (1908) Inv. Nr. 78291

Flieger-Handkamera von Carl Zeiss (1914) Inv. Nr. 48629

Reihenbildner von Oskar Messter (1915) Inv. Nr. 56011 (Original) - 77437 (Nachbau)

Fliegerkamera "F.K.I. 680" (1916) Inv. Nr. 59165

Fliegerkamera "FK II 929" für Einzelaufnahmen (1916) Inv. Nr. 67158

Fliegerkamera Zeiss HB 29 Fliegertruppe KGMA (ca. 1917) Inv. Nr. 67450

M.G.-Kamera Ernemann nach dem Messter - Patent (1916-1918) Inv. Nr. 63696,
64405, 67453

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Tegeler See (1912) Inv. Nr. 53199Z3

Luftbildaufnahmen, 8 Stück (1915) Inv. Nr. 2010-178Z1

Aquarell Flugzeug mit Reihenbildner-Kamera von Oskar Messter an 1000 m Seil
(1916) Inv. Nr. 64418

Luftbild, aufgenommen mit automatischem Messter-Reihenbildner (1916) Inv. Nr.
56437T1-T2

Luftbildaufnahme des Ortes Herre, ausgeführt mit einem Reihenbildner (20.05.1918)
Inv. Nr. 64401

Luftbilder und Karten Aufklärungsflug 1. Weltkrieg. Flieger Komp. 30 am 27. Juni
1917 / Beobachter: Lt. Auer / Pilot: Zgf. Boronkay / 2. Flug / Meldung No. 275.
Inv. Nr. 2021-112

Airplanes

Flugzeug Rumpler C IV (Nachbau mit Originalteilen, 1917) Inv. Nr. 1976-818

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August Fuhrmann "Kaiser-Panorama" (ca. 1900)

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Historial de la Grande Guerre, Péronne (France)

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In Flanders Fields Museum, Ypres (Belgium)

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