

## Archaeology of World War I in the Alpine Region. Locations and Traces of the High Mountain Front of the First World War in the Dolomites and on the Ortler Glacier

*Waltraud Kofler Engl*

The region of Tyrol, a Habsburg land since the year 1363, was in the course of its history always a land of transit, situated along one of Central Europe's most important north-south routes, with intensive cultural and economic contacts. Although located on the Italian language border, up until the outbreak of the First World War it was never in fact a borderland and only affected by minor localised military conflicts. From 1915 to 1918 however, despite its proximity to "Welschtirol" (now Trentino), at the time part of the Habsburg Empire, it was seriously affected by the mountain fronts between Austria and Italy (Fig. 1).

The end of the war in 1918 brought about the disintegration of the Empire and, with the Peace Treaty of St. Germain in 1919, the part of Tyrol south of the main Alpine ridgeline was awarded to Italy as victor. It thus became its northernmost province and a territory in its own right, separated from North Tyrol, with the character of a borderland under the rule of Italian Fascism. The demarcation line, the result of a political decision rather than military victory, would have far-reaching political, social and cultural consequences. Among the population of the land emerged long-standing linguistic, cultural and political-ethnic divides. With the adoption of the Autonomy Statute in 1972, both for Trentino and South Tyrol, some of this tension was relieved and certain linguistic and cultural barriers were removed – but by no means all. Following the Schengen Agreement, the military installations along the frontier were at any rate dismantled.

The Alpine region of Alto Adige (South Tyrol), Tyrol and Trentino contains large numbers of military constructions and relics of fighting, both used and unused, ranging from fortified medieval castles and Habsburg forts and military roads from the 19th century, to positions of the mountain front of the First World War and the structures of Mussolini's *Vallo Alpino* (Alpine Wall), with bunkers, military roads and barracks that were refurbished during the Cold War (Fig. 2). There are also cemeteries whose occupation has changed over time, with reburials and nationalistic, glorified reinterpretations of the First World War, as well as legacies such as the Victory Monument in Bozen/Bolzano, unveiled in 1928 by the Fascist regime as a symbol of Italy's (highly stylised) victorious war in the mountains and its legitimate occupation of South Tyrol. Together with the emergence of the "New City of Bolzano" in the interwar period, with both imperialistic and high-quality buildings reflecting rationalism, and with the Brenner frontier, these are all visible consequences of the First World War. The memory of the Great War is more deeply etched than we might expect.

The main issue here, however, relates to the traces of war that were carved into the landscapes of the Dolomites and the Ortler/Ortles glacier, as well as the approach to all tangible legacies, whose protection, preservation, selective securing (without reconstruction), investigation and presentation as cultural assets in didactic and touristic terms are all stipulated and required by both the Italian law governing the



*Fig. 1: Dolomite Front, Schwalbenkofel  
(photo Waltraud Kofler Engl)*



*Fig. 2: Sexten, Kreuzbergpass, bunker  
(photo Waltraud Kofler Engl)*



Fig. 3: Dolomite Front, Eisenreich barracks, 2016 and 1916 (photo Rupert Gietl, Sexten)

protection of monuments and by supplementary regulations (Fig. 3). The conservation offices have a duty of supervision and co-ordination and are expressly obliged to provide specialist support to initiatives undertaken by municipalities, associations and stakeholders.

After Italy's entry into the war in 1915, the high-mountain front in rock and ice, active until 1918, ran between Austria and Italy for some 600 km on the territory of four countries (Switzerland, Italy, Slovenia and Austria) from the Stilfserjoch/Stelvio Pass on the Swiss border, across the glaciers of the Ortler massif to Lake Garda, from Cortina d'Ampezzo via Sexten/Sesto, the Carnic Alps and thence to the Isonzo and the Adriatic coast. The establishment of the front and the fighting at up to 3,900 metres above sea level were unheard of in military history and placed a tremendous strain on the organisation, positioning and resupply of the soldiers.<sup>1</sup>

Although a military sideshow, away from the main battle areas on the Isonzo and Piave rivers where the decisive actions were fought, this terrain witnessed extreme positional warfare and enormous losses. Between 150,000 and 180,000 soldiers died in the three years of the high-mountain war, with two thirds falling victim to avalanches, hunger, disease and frost, and only one third killed in the actual fighting.

Although the fronts were far from the inhabited areas, the civilian population was nevertheless affected by the difficulty in obtaining supplies, the fate of the male family members, the heavy burden of housework on women and children, the quartering and encampment of soldiers in the valleys and sometimes by the shelling of settlements such as Sexten. The border war was not only waged in the high mountains but also experienced by civilians.<sup>2</sup>

The ongoing discovery of positions – in Trentino even of corpses – caused by the retreat of the glaciers on the Ortler massif (intently followed by those with an interest in military history and looters alike), today still evokes personal and emotional memories of the fate of the mountain troops.

Owing to the unusual topography, as well as to the arch-enemy Italy, the remembrance of the “war in the rock and ice” had in the interwar period already achieved the status of a “heroic myth” complete with nationalistic overtones, which in some cases persists in today's popular scientific media. This elevation to heroic status in the films by Luis Trenker, the ideological interpretation of history and the bombastic monuments to the dead created by Italian Fascism, as well as the preservation of the Tyrolean militia structures, have all substantially contributed to this.<sup>3</sup> An investigation into the war experiences of the common soldier and the civilian population has only in recent decades become a more relevant subject for research and learning.<sup>4</sup>

### Locations and traces of the high mountain front of the First World War in the Dolomites and on the Ortler glacier

South Tyrol, after North Tyrol, contains the shortest section of the former mountain front. While the organisation of the glacier front on the Ortler was to a certain extent determined by topography and climate, the Dolomite Front – whose spectacular landscapes extend far into the Veneto as far as East Tyrol and Carinthia – was several kilometres wide around the “Tre Cime/Drei Zinnen” [Three Peaks] and the Sexten Dolomites.<sup>5</sup> In addition, there were transport and supply infrastructures located in the hinterland. Countless traces in the mountain landscape, including paths, command posts, trenches, gun-crew shelters, caverns, cable-car stations and inscriptions, supplemented with historical photos and reports by the soldiers, make it almost impossible to grasp the area of research and documentation of this scene of conflict (Fig. 4). The trails that hikers use today were created as military routes before and during the First World War. Individual mountain massifs, such as the Paternkofel and Lagazoi, are virtually riddled with caverns, while only a cone remains of the Col di

Lana following the triggering of a massive explosion in 1916. Sleeping quarters can be found in the crew shelters carved out of the rock, and even the occasional installation or personal item that has been spared from the intensive “treasure hunts”. The reused rope curtain of a fortress was discovered in debris material from the Rotwandscharte/Croda Rossa.

Much has already disappeared from the landscape as a result of the weather conditions, with no possibility of saving the fragments even by means of complex attempts in the field to secure or reconstruct them, as the next winter will sweep these away. Only photographs, large-scale surveys and some small-scale excavations of particular structures are available for recording and documentation purposes and, in combination with historical photographs, archive material and eyewitness accounts, these are often the only conservation methods possible. Given its enormous extent, the thousands of structures located on the changing sections of the front and the different cultures of remembrance (due also to the severance of South Tyrol), the war in the mountains must be considered both in a holistic and in a transnational way.

The development of satellite geodesy and photogrammetry now permit the economical, precise and even three-dimensional imaging and documentation of extensive installations and landscapes. This in turn means that virtual visualisations, hiking guides and other applications all offer a potential use that concentrates information without the need for reconstructions or on-site displays (Fig. 5).

Initial pilot projects by conservation offices in Trentino and South Tyrol have been extended in recent years, but full

coverage of the area will take some years. The projects are being conducted by freelance “conflict archaeologists” and surveying companies with the appropriate technical equipment, supported by local partners with a good knowledge of the area and of the mountains.<sup>6</sup>

Often only traces are left in the terrain, such as the comfortable former officers’ quarters, known as the “Million Hut”, above the Rotwandscharte; while the structure collapsed, the rock cavern remained (Fig. 6). Even on the exposed Schwalbenkofel, which like many other theatres of war is only accessible via climbing routes, recording and documentation of the remaining structures, built before and during the war, have been supplemented by minimal measures to secure the chosen approach (Fig. 1).

The entire area of the Dolomite Front is nowadays a nature park and a UNESCO World Natural Heritage Site and should not be further developed through new routes. There are therefore no signs or indications in the landscape; they would be short-lived, spoil the landscape, lead into rough terrain and encourage the search for relics even though this is a criminal offence. Knowledge of accessible scenes of battle – where located on trails – should nevertheless be conveyed by means of historical and geographical maps, peace trails and digital and other yet-to-be-developed formats, both in the field and in museums.<sup>7</sup>

The historical stratum of the First World War, long dominated by heroic tales or left to personal memories, is carved into this landscape and is gradually emerging from the shadows thanks to “conflict archaeology” and the questions and



Fig. 4: Dolomite Front, traces on the Frugnonisattel (photo Rupert Gietl, Sexten)

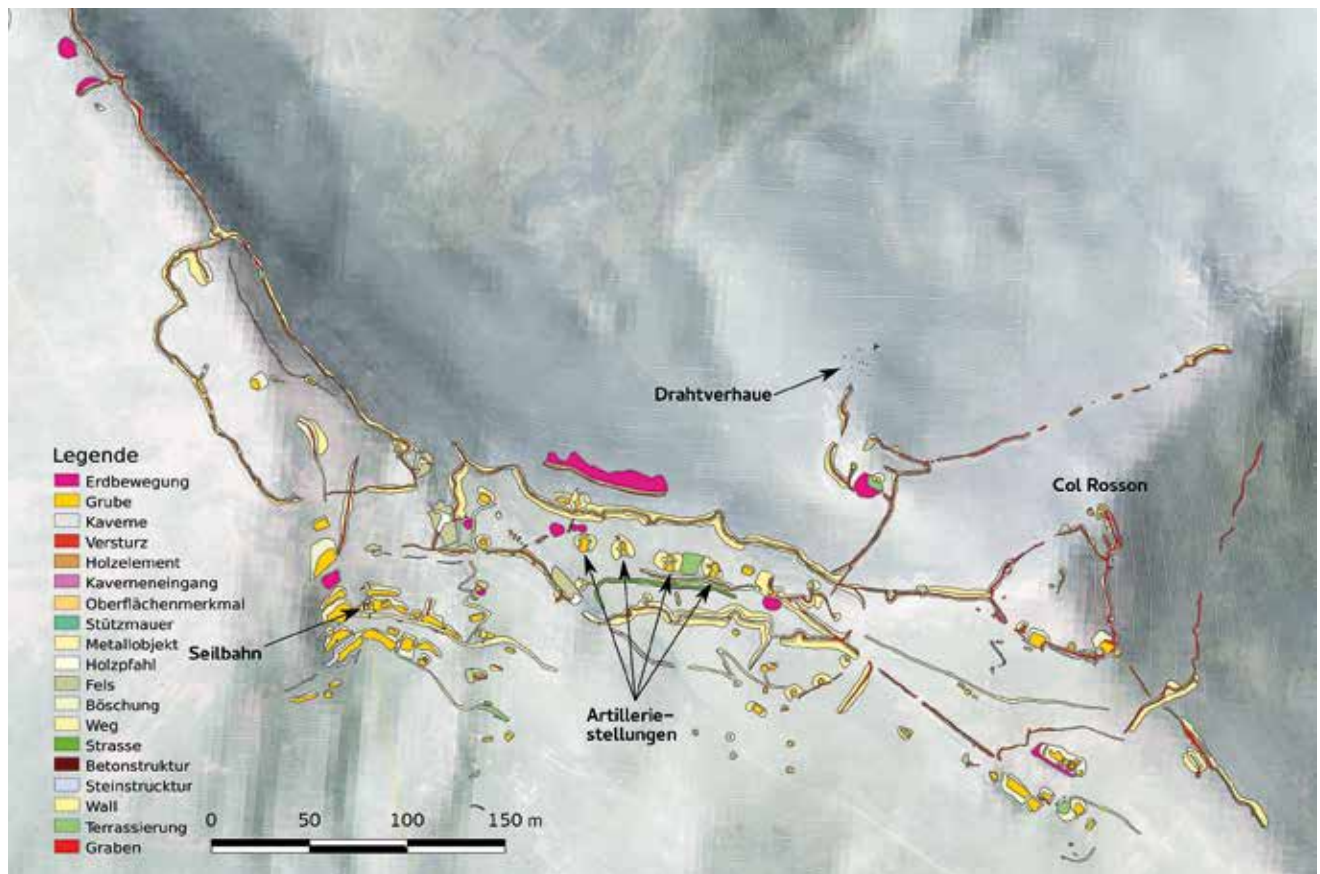


Fig. 5: Dolomite Front, documentation of survey Col Rosson (Arch-Team Archaeology)

methods that it addresses to landscape and archaeological issues (Fig. 7).<sup>8</sup>

The Habsburg fortress of Mitterberg in Sexten has achieved protected status in recent years and will in future host an exhibition on the Dolomite Front in the Sexten Dolomites and the area around the Three Peaks. The *Bellum Aquilorum* association in Sexten actively documents, secures, preserves and teaches about the material and immaterial traces of the First

World War.<sup>9</sup> The association receives technical support from the Offices for Field, Building and Artistic Monuments and the Austrian Society for Fortification Research.<sup>10</sup> The local tourist office, in collaboration with the Austrian municipality of Kartitsch in East Tyrol and that of Comelico Superiore in the Veneto, has already published a historical tourist map of the traces of the First World War (*I resti della prima guerra mondiale*) as part of its efforts to promote tourism.<sup>11</sup>

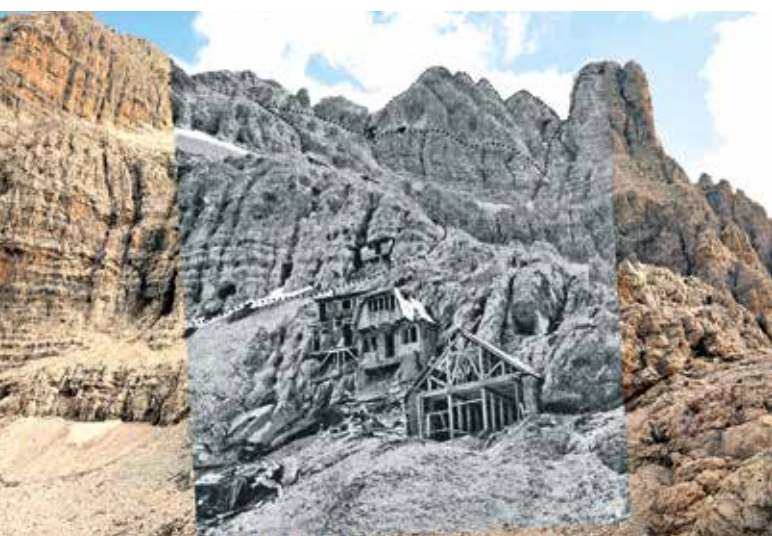


Fig. 6: Dolomite Front, Sexten, Rotwandscharte, officer quarter (Million Hut), 1930 and 2015 (photo Rupert Gietl, Sexten)



Fig. 7: Dolomite Front, documentation of landscape (photo Arch-Team Archaeology)



Fig. 8: Boundary stone, 1753  
(photo Arch-Team Archaeology CC BY-SA 40)



Fig. 9: Dolomite Front, Carnic Ridge, archaeological excavation (photo Waltraud Kofler Engl)

A cross-border surveying and research project conducted by the Italian provinces of South Tyrol, Belluno and Trentino, and the Austrian province of Tyrol, is aimed at tracking the border between Austria and the Republic of Venice, established in 1753 by means of surveying and landmarks over a length of 350 kilometres from the Carnic Ridge via the Kreuzberg/Monte Croce di Comelico Pass to Lake Garda (Fig. 8). During the First World War, the front ran along this borderline; in the interwar period Mussolini built bunkers here as part of his *Vallo Alpino*, which were maintained in functional state during the Cold War (Fig. 2).

During the First World War, one of the front lines between Austria and Italy also ran along the so-called Carnic Ridge, which forms the present-day border. Supply routes, gun positions, casemates, trenches, shelters, military hospitals and cemeteries are the traces of the former fronts over large areas and across the borders of this zone of conflict. No documen-

tation or educational work is of use unless it is transnational, large-scale and multi-layered in nature. The Austrian Office for Conservation and Monuments in Tyrol therefore works closely with the corresponding authority in South Tyrol in seeking protected status here. There are no plans for excavation works, nor – apart from a few endangered structures – for any restoration measures, or for information boards other than the usual trail signposts. We are introducing initiatives in the European Sharing Heritage Year of 2018 to transform this border area into a meeting place (Fig. 9).

Following the abandonment of the Dolomite Front in 1917, the Mountain Front on the Ortler massif and on the Stilfserjoch Pass was extended, with positions reaching up as far as the glaciers. Within the provinces of South Tyrol, Trentino and Lombardy shelters can still be found complete with equipment, trenches, battle stations, ice and rock caverns, all left over from the positional warfare waged by both



Fig. 10: Ortler glacier, Eiskögele barrack  
(photo Waltraud Kofler Engl)



Fig. 11: Ortler glacier, Pleishorn barrack  
(photo Waltraud Kofler Engl)



Fig. 12: Ortler glacier, Pleishorn, letter from a Czech soldier; 1918 (photo Südtiroler Landesarchiv Bozen)

the Austrians and the Italians. The melting of the glaciers has led not only to such sensational finds as that 27 years ago of Ötzi, the “Man from the Ice”. In recent years too, at the western end of the high mountain front up on the Ortler massif, structures and other finds have continuously emerged from the surface, which are then exposed to illegal looting or loss through collapse. Preservation at such altitudes is scarcely possible (Fig. 10).

The Conservation Office of the Autonomous Province of Bozen/South Tyrol has surveyed the remaining positions over several years, for instance on the peaks of the Eiskögele, the Pleishorn (Fig. 11) and the Trafoier ice wall, securing the everyday objects left behind by Italian and Austrian soldiers that have emerged from the ice. Much has already been lost, however, stolen in professionally organised “raids”, then sold on the black market. It is a race against climate change and theft. Finds such as the blood-stained coat of an Italian mountain trooper or the letters of July 1918 written by



Fig. 13: Ortler glacier, Königsspitze, Austrian barrack (photo Waltraud Kofler Engl)

his beloved to a Czech soldier stationed below the summit of the Ortler on the Pleishorn<sup>12</sup> – give a glimpse of the expressive power of such cultural assets. “Přišla [jsem] šťastně před 10tou domů Nemohla jsem dlouho usnouti – [u] pomínajíc na Tebe. Byl to that sen! Vid’! – tak na krátkou chvíli, je mi smutno ----! ... Buď hodným a nezapomeň na Tvou růži...”<sup>13</sup> (“My dear rascal! I returned home happy before 10 o’clock but, with my memories of you, I could not get to sleep for a long time. It was just a dream, wasn’t it – such a short time. Now I am sad. I have no one with whom I can laugh or talk... Be good and don’t forget your rose...”) (Fig. 12).

Without local knowledge, experience of high Alpine terrain and the mountain rescue techniques of the members of the “Ortler Collectors of the First World War Association”, as well as without expensive helicopter flights, it would not have been possible either to survey or to salvage the finds.<sup>14</sup> The excavation and documentation of the formerly heated Austrian barracks, protruding from a glacier up on the 3,851-metre high Königsspitze, have repeatedly been postponed owing to weather and safety concerns, but promise to reveal an undisturbed, fully equipped position, frozen in place at the end of the war (Fig. 13).<sup>15</sup>

Next to the three heavy guns at 3,000 metres above sea level at the foot of the Zufallspitze/Cevedale, which were hauled there by prisoners of war and remained there after the armistice, a modest memorial was erected in summer 2017 to the victims of this section of the front.

## Concluding remarks

In addition to the legal obligation to protect, preserve, research and educate, there is a keen interest of the public, not just of local associations, in the material relicts of the First World War in the high mountains. The initiatives are observed and probed by the media. It cannot be denied that “dark tourism” and its exploitation by the tourist industry play a role here.

Local associations, without whose local and logistical knowledge documentation would not be possible, require fi-



Fig. 14: Ortler glacier, Eiskögele barrack, artefacts (photo Waltraud Kofler Engl)

nancial and scientific support that historians, archaeologists and conservationists should and must provide.

Owing to the presence of the Great War stratum, the mountain landscapes along the front lines can be construed not only as a hiker's paradise or a UNESCO World Natural Heritage site, but also as multi-layered landscapes of our cultural heritage. They must not be abandoned to the tourist industry or to collectors of "treasures", nor to well-intentioned but short-lived attempts at reconstruction.

The cross-border co-operation with Austria, the Veneto and Trentino, despite the different cultures of remembrance, has produced spaces for encounters and joint educational efforts have come into being across the former fronts.

The cultural heritage of the Alpine high-mountain front can be documented, explored, museumised and illustrated without the intrusion of mock-heroics or mythmaking, only by giving first an overview of the structures and traces in the landscape and the relicts of the everyday routine of war. Historical sources such as plans, images, text and documents of soldiers should be preserved and studied by means of cross-border co-operation, interdisciplinary endeavours and multiple perspectives of research. This cultural heritage has the potential for a research project that could start from the hitherto only partially considered places, militarised landscapes and material traces of everyday life in wartime (Fig. 14).

Finally, I would like to mention the emotional stress affecting all those involved in dealing with the material, everyday and personal legacies of the war, the climatic conditions, the ever-present smell in the former crew shelters, and the narrative potential of these cultural assets.

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<sup>1</sup> Generally see LABANCA/ÜBEREGGER, *Krieg*, 2015.

<sup>2</sup> See HÄMMERLE, *Opferhelden*, 2015, p. 155f.

<sup>3</sup> ÜBEREGGER, *Erinnerungskriege*, 2011.

<sup>4</sup> For example BRANDAUER, 2007.

<sup>5</sup> KÜBLER/REIDER, *Kampf*; 2006; KÜBLER/REIDER, *Krieg*, 2017.

<sup>6</sup> For conflict archaeologist Rupert Gietl see <http://www.arc-team.com/team.php>; [https://www.academia.edu/34945524/Frontgebiete\\_unter\\_der\\_Lupe\\_Die\\_Archäologie\\_des\\_Ersten\\_Weltkrieges\\_im\\_Gebirge](https://www.academia.edu/34945524/Frontgebiete_unter_der_Lupe_Die_Archäologie_des_Ersten_Weltkrieges_im_Gebirge); [https://www.researchgate.net/publication/328027130\\_Archeologia\\_della\\_Grande\\_Guerra](https://www.researchgate.net/publication/328027130_Archeologia_della_Grande_Guerra)

<sup>7</sup> [https://www.researchgate.net/publication/320593110\\_Frontgebiete\\_unter\\_der\\_Lupe\\_Die\\_Archäologie\\_des\\_Ersten\\_Weltkrieges\\_im\\_Gebirge\\_Neue\\_Ergebnisse\\_der\\_grossflächigen\\_archäologischen\\_Dokumentationskampagne\\_am\\_westlichen\\_Karnischen\\_Kamm](https://www.researchgate.net/publication/320593110_Frontgebiete_unter_der_Lupe_Die_Archäologie_des_Ersten_Weltkrieges_im_Gebirge_Neue_Ergebnisse_der_grossflächigen_archäologischen_Dokumentationskampagne_am_westlichen_Karnischen_Kamm)

<sup>8</sup> GIETL/TERZER/STEINER, 2015, pp. 4–25.

<sup>9</sup> For information on its activity see [www.Bellumaquilarum.it](http://www.Bellumaquilarum.it); <https://www.drei-zinnen.info/de/sexten/sexten/sexten-erleben/bellum-aquilarum.html>; <https://www.sexten.it/story/freilichtmuseum/>

<sup>10</sup> See <http://www.kuk-fortification.net/>

<sup>11</sup> See [https://www.researchgate.net/publication/320593110\\_Frontgebiete\\_unter\\_der\\_Lupe\\_Die\\_Archäologie\\_des\\_Ersten\\_Weltkrieges\\_im\\_Gebirge\\_Neue\\_Ergebnisse\\_der\\_grossflächigen\\_archäologischen\\_Dokumentationskampagne\\_am\\_westlichen\\_Karnischen\\_Kamm](https://www.researchgate.net/publication/320593110_Frontgebiete_unter_der_Lupe_Die_Archäologie_des_Ersten_Weltkrieges_im_Gebirge_Neue_Ergebnisse_der_grossflächigen_archäologischen_Dokumentationskampagne_am_westlichen_Karnischen_Kamm).

<sup>12</sup> Soldiers from all of the Habsburg lands were stationed on the mountain fronts.

<sup>13</sup> Thanks for reading to Gustav Pfeifer, Südtiroler Landesarchiv, Bozen.

<sup>14</sup> The "Ortler Association of Collectors for the First World War" (Ortler Sammlerverein Erster Weltkrieg) investigates, collects and documents material legacies, organises guided walks and supports the documentation from the Conservation Office of the Autonomous Province of Bolzano/South Tyrol; see <https://www.ortlerfront.org/der-verein>

<sup>15</sup> See the film *Rai Südtirol Bergwelt*: <https://www.youtube.com/watch?v=VF-2OSCoCHs>.