Shelters in the Night. The Role of Architecture in the Process of Understanding High-Altitude Areas

Roberto Dini and Stefano Girodo

Electronic version

URL: <https://journals.openedition.org/rga/3919>

DOI: 10.4000/rga.3919

ISSN: 1760-7426

This article is a translation of:

Rifugiarsi nella notte. Il ruolo dell'architettura nel processo di conoscenza dell'alta quota - URL : <https://journals.openedition.org/rga/3911> [it]

Publisher:

Association pour la diffusion de la recherche alpine, UGA Éditions/Université Grenoble Alpes

Electronic reference

Roberto Dini and Stefano Girodo, "Shelters in the Night. The Role of Architecture in the Process of Understanding High-Altitude Areas", *Journal of Alpine Research | Revue de géographie alpine* [Online], 106-1 | 2018, Online since 08 April 2018, connection on 08 December 2022. URL: <http://journals.openedition.org/rga/3919> ; DOI: <https://doi.org/10.4000/rga.3919>

This text was automatically generated on 8 December 2022.

Creative Commons - Attribution-NonCommercial-NoDerivatives 4.0 International - CC BY-NC-ND 4.0
<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Shelters in the Night. The Role of Architecture in the Process of Understanding High-Altitude Areas

Roberto Dini and Stefano Girodo

Historical development

- 1 What Turinese director and mountaineer Carlo Alberto Pinelli described as “the conquest of the night” is a key moment in the process of cultural appropriation of the high mountains.¹
- 2 The design and construction of huts in the Western Alps between the end of the eighteenth century and throughout the nineteenth constitutes a key stage in this cognitive trajectory:² thanks to the installation of stable shelters offering overnight accommodation in high-altitude areas, superseding the pioneers’ precarious camping solutions *à la belle étoile*, it is possible to undertake wide-ranging scientific, geographic and alpine explorations there for the first time.³
- 3 Enrico Camanni has underscored that “oltre il limite umanizzato dei pascoli, oltre la ragionevole soglia di sopravvivenza degli ultimi fiori, il buio fungeva ancora da detonatore per le angosce ancestrali dei montanari” (Camanni, 2005 - *beyond the humanised limit of the pastures, beyond the reasonable survival threshold of the last flowers, the dark still served to unleash mountaineers’ ancestral anguish*), representing an insurmountable barrier to discovering areas at higher altitudes, and the basis of a widespread modern cultural conception of the mountain, which is still seen as an unknown, fearful space to this day.
- 4 Philippe Joutard identified the epic conquest of Mont Blanc as the decisive turning point in the conceptualisation of the high mountains, marking its entry into modern culture.⁴
- 5 The hut that De Saussure had made for the attempted ascent of Mont Blanc in 1785 along the Goûter Route was conceived because: “Les gens du pays ne croient pas que

l'on put hasarder de passer la nuit sur ces neiges" (De Saussure, 1786). Still on the subject of this event, Camanni noted that "il cercatore di cristalli Jacques Balmat fu considerato per molti anni l'eroe del Monte Bianco non tanto perché aveva raggiunto la cima con il medico Michel Gabriel Paccard, [...] quanto perché, bivaccando involontariamente tra i ghiacci del Grand Plateau nel giugno del 1786, aveva dimostrato che si poteva sopravvivere agli spiriti delle altezze" (Camanni, 2005 - *for many years, the crystal searcher Jacques Balmat was seen as the hero of Mont Blanc, not so much because he had reached the summit with the doctor Michel Gabriel Paccard, [...] as because, involuntarily camping out amidst the ice of the Grand Plateau in June 1786, he had shown that one could indeed survive the spirits of the high mountains*).

- 6 Such shelters, first of scientists and then of mountaineers – an extreme dwelling outpost in the most inhospitable areas of Europe – thus represent a decisive human and cultural stronghold for overcoming mystery and driving out fear, serving to catalyse the progressive transformation of the alpine region from an ancestral construct into an outpost of scientific learning, the “playground” of mountaineers (Stephen, 1871), a space of symbolic and political conquest, and, successively, a site of *loisir* for tourists.
- 7 In just a few decades, mountain guides and mountaineering associations played a decisive role in this process, gradually and extensively taming the entire alpine area; this process initiated the systematic physical alteration of the high-altitude region, paving the way for a widespread building colonisation that continues to evolve to this day. Compared to the culmination of infrastructural expansion during the economic boom – from the ‘60s to the ‘80s – where the challenge lay in the high visitor numbers (supported by a generation of “transatlantic liner” huts that turned mountaineering clubs into the main accommodation organisations at the national level), we are now witnessing the establishment of a renewed, albeit still contradictory, environmental awareness that developed from the ‘90s onwards.⁵
- 8 Thanks to the possibility of an absolute analysis of the scarce buildings in high-altitude areas, types, themes and experiments undertaken within them can be examined on a diachronic, almost *in vitro* basis. One might note, therefore, that from a structural perspective, mountain huts and, successively, bivouacs absorb and reflect the ways in which space, landscape and time have been conceptualised and used over time: from the first minimal, self-contained structures up to today’s dazzling ones, which develop in stark tension with the region, establishing themselves as protagonists of the alpine landscape, and in continuous association with the needs of the user.

1. "Chamouny. Première ascension de l'aiguille du midi par le comte Fernand de Bouillé. nuit du 4 au 5 août 1856. 3500 mètres au dessus de la mer, 10 degrés de froid"

SOURCE: ILLUSTRATION FROM ISIDORE LAURENT DEROY, 1856

2. "Glacier de L'Aar. Partie Supérieure avec la cabane de Mr. Hugi"

Source: Agassiz L., 1840. – *Études sur les Glaciers. Ouvrage accompagné d'un Atlas de 32 planches*, Jent et Gassmann, Neuchâtel-Soleure.

3. Interior of the Trifthütte, in Bernese Oberland (2517 m), 1906

Source: Archivio CAS.

Architecture for high-altitude areas

- 9 Through the creation of mountain huts and bivouacs, architecture⁶ reaches levels beyond which no relevant housing models exist; there is no previous construction experience to be drawn upon, nor is there a pre-existing building heritage to which one might refer. As such, to inhabit a hostile, largely unknown environment, experimentation is intrinsically necessary.
- 10 The primordial architectural conception of the hut thus conforms to the most basic technical and distributive functionalism. This is for reasons that range from construction simplification to the complex logistics of building sites, and from the lack of materials available for use on site (excluding stone), to the optimisation of the space available, and the need for structural, protective resistance against difficult weather and climate conditions.
- 11 Shelters are thus extremely spartan, sometimes having been carved directly out of the rock or leaning against it. Through solutions of an *existenzminimum* ante litteram nature, such structures merely offer a sheltered space in which to spend the night.
- 12 Indeed, the first huts reflect the sublime, fearful aspect still associated with the alpine environment – especially at night –, merely satisfying a primary need for shelter from constant exposure to a hostile environment. In addition to thermal performance and technical simplification purposes, openings are also kept to a minimum for symbolic and semantic reasons: there is no attempt at any contact or interaction with the ‘outside’, which cannot be seen or felt, so as to recreate a protected, almost sacred

environment. The night remains outside, therefore, as an element charged with an immense power against which one must defend oneself.⁷

- 13 One specific use for huts, specifically connected with the purpose of spending the night in high-altitude areas, can be seen in the observatories for astronomical studies conceived in the late nineteenth century (and scientific ones more generally, covering several disciplines: meteorology, physics, human physiology, and medicine). These were often set up in areas that were truly prohibitive for the time and were also designed for extended stays. One might think, for example, of the exceptional experiences at the Vallot Hut and the Janssen Observatory on Mont Blanc (the latter being 4,810m high at its summit) or even of the Margherita Hut-Observatory at Punta Gnifetti on Monte Rosa.⁸
- 14 Still in the second half of the nineteenth century, another use of night-time in the alpine area came to light: the brief season of the “peak huts”, which had essentially died out by the ‘20s of the following century, led to the spread of huts built near the summit. These were useless from the point of view of the mountaineers (since they did not provide a ‘springboard’ for further ascents), but were conceived as a permanent stronghold and a sign of man’s conquest and, depending on the romantic spirit of the time, a privileged panoramic viewpoint for contemplating the sunset, night and sunrise. Among others, these include the huts with a turret on the summit of Zugspitze in Germany, or in the Valle d’Aosta, the Budden Pavilion at Becca di Nona, the Defey Hut at Colle del Rutor, and the Carrel Hut at Grand Tournalin.⁹
- 15 Subsequently, the dizzying evolution of popular notions of high-altitude areas in the twentieth century¹⁰ was accompanied by an extraordinary succession of architectural experiments concerning huts across the entire alpine area. As Antonio De Rossi explains: “C’è qualcosa, nell’idea del rifugio d’alta quota, che [...] affascina in maniera crescente i progettisti dello spazio fisico, siano essi architetti, ingegneri, o altro ancora. É qualcosa che tocca e mette in movimento le corde del primigenio: fuori la maestosità della natura ostile, dentro il microcosmo della comunità degli uomini, in un’ancestrale opposizione di caldo e freddo, luce e oscurità. Tra loro, la membrana protettiva e materna del rifugio o del bivacco” (De Rossi, 2016, - *There is something about the idea of high-altitude huts that [...] is increasingly fascinating for those in charge of planning out physical space, whether they are architects, engineers, or in another profession. It is something that touches and stirs one’s primitive cords: outside stands the majesty of hostile nature, while inside is a microcosm of the human community, in an ancestral opposition between hot and cold, light and darkness. Between the two, stands the protective, maternal membrane of the hut or bivouac*).¹¹
- 16 Hence, new forms of architecture in high-altitude areas become devices for purposefully intercepting and exasperating these oppositions, bringing out their arrangement in space and time: by opening up, for example, to the vertiginous precipices or framing gentle pastures, representing the passage of time through the framework of the landscapes of day and night.
- 17 The collective image of the hut as a “navigating cell”, a unique humanised diaphragm within the vast oceanic night of high-altitude areas is clearly illustrated by the writer, illustrator and mountaineer Samivel (alias Paul Gayet-Tancrède): “Et toute cette énorme nuit pleine d’abîmes virait d’un bloc autour de la minuscule coque de tôle où reposaient les hommes. Là-dedans, c’était un espace apprivoisé, encore frémissant des gestes humains, avec des choses familières, réconfortantes et bornées, la silhouette

paysanne d'un banc, le rougeolement des cendres à la gueule du poêle, le bruit râpeux des couvertures traînées sur le bat-flanc. Rien que des coeurs amis" (Samivel, 1940). This mode of representation cuts across the ages, but it was most clearly expressed in the '60s and '70s, through the persistent analogy with aerospace experiences at the time: the building-module ventures out into the unknown, uncontaminated alpine area like a space pod, assuming its technological solutions and figuration.

- 18 One might recall, for instance, the futuristic Vittorio Emanuele II hut (Armando Melis, 1932), which resembles a submarine at the foot of the Gran Paradiso, the lunar modules of the Ferrario Bivouac on Grignetta (Mario Cereghini, 1968) and the Dolent Bivouac (Raymond Ekchian, 1973), or even the cylindrical nacelle of the new Gervasutti Bivouac, projected into the void before the Grandes Jorasses (LEAPfactory, 2011). These are pure abstract, self-referential volumes with a marked technological character, which trigger a reciprocal resonance by contrasting with the irregularity of the alpine landscape.
- 19 Beyond specialist, technical questions, the design of huts raises key questions within contemporary architectural debate, such as the relationship between a building and the surrounding landscape, environmental sustainability, energy efficiency, prefabrication, and the organisation and management of complex building sites.
- 20 It is interesting to note, in this regard, that after two centuries of essential indifference, the topic of mountain huts is becoming increasingly present and now forms an integral part of the current mainstream of writing on architecture, coming to constitute a veritable current of thought, as legitimised by the large number of recent constructions of common interest.¹¹
- 21 Contemporary works¹² are now entirely unmarked by distorting approaches of a mimetic or picturesque and vernacular nature. Instead, they favour a strong research component into innovative and heterogeneous language, especially through the introduction of design tools based on the dialectics of opposition: between interior and exterior, building and surrounding landscape, local contexts and international trends, natural and artificial, landscape and geometry, and inside and outside. Many recent hut projects draw their most important characterisation, however, from the way in which they interact with the mountain landscape on a large scale, forming real landmarks, sculptural volumes legitimated either through the purity of their geometry or through their metaphorical reflection of the geomorphological characteristics of the mountains.
13
- 22 By echoing the form of the rock or summits, numerous recent constructions seek to achieve a sort of perceptive continuity with the alpine landscape. For example, the famous new Monte Rosa Hut (Bearth & Deplazes Architekten, in collaboration with the Polytechnic of Zurich and the Swiss Alpine Club, 2008) illustrates this rhetoric well, recalling the prismatic shape of the rock crystals. The building takes the form of a multifaceted, reflective volume with an enveloping metal casing, which, thanks to its shape and position, provides an opportunity to reinvent a landscape. It is a sort of metaphysical presence which, entering into dialogue with the *silhouette* of the Matterhorn, reshapes the glacial scenery of the Gornergrat. The well-known Gonella hut (Antonio Ingegneri and Enrica Ribetti, 2011) on the Italian side of Mont Blanc also "constructs" a new landscape, blending continuously into the development of the ridge of rock onto which it is inserted.
- 23 This form of physical interaction with the context also involves a tactile reference to the surrounding environment through the casing materials. Through the use of metal

cladding on the building's outer skin with a 'cold', protective appearance, it is possible to create shells geared at achieving forms of material integration with the inert elements of high-altitude areas. The external appearance contrasts with that of the interior spaces, which, through the use of wooden coverings and furniture, become 'warm', welcoming areas. Over the last two decades, the strong focus on environmental questions and sustainability has also contributed to an increasing dissemination of technologies geared at energy saving and rational resource management. Nowadays, such aspects are also an essential part of the global architectural conception of the building: from a management perspective, to guarantee their complete autonomy in terms of energy and performance, mountain huts nowadays are designed like real machines.

- 24 Traditionally seen from the technical perspective only, as part of the equipment, these elements are also now central from the point of view of architectural design: from juxtaposed technological "prostheses" to integral, distinguishing structures of the building.

4. The Janssen observatory on the summit of Mont Blanc (4810 m) in 1902

Source: Archivio Louis Lecarme et Geneviève Colomb.

5. The summit of Zugspitze (2962 m) with the 1883 hut

Source: Archivio Cantieri d'alta quota.

6. Dormitory plan with anthropometric sketches of the bunks

Source: Archivio CAS.

7. The Monte Rosa Hut, Cantone Vallese (CH), 2883 m. Bearth & Deplazes architects, ETH Studio. Monte Rosa, 2009

Photo Giorgio Masserano.

8. "Refuge du Goûter", Mont-Blanc (FR), 3835m, Groupe H / DécaLaage, 2013

Photo Pascal Tournaire.

9. Bivouac under the Skuta (SLO), 2070 m, OFIS architects, 2015

Photo Anze Cockl.

Old and new forms of social relations among the peaks

- 25 Life within the rooms of huts initiates a new experience of day and night-time hours, conceptually reversing the established representation that sees the night as a time of paralysis and closure and the day as one of action and opening.¹⁴
- 26 According to the timings required by mountaineering itineraries, night-time hours are actually used for safety reasons, on account of the better environmental conditions (good regelation, closing up of crevasses), reduced exposure to objective hazards compared to the warmer times of day (falling of rocks and debris, avalanche phenomena), and the greater availability of daylight hours to complete the ascent.
- 27 The relationship between the interiors in huts and their rhythms of use thus becomes central. Usually, dinner takes place at the end of the afternoon and night begins at sunset; rest follows a brief moment of socialising and is soon interrupted by the departure of the first roped parties during the night; all in shared spaces.
- 28 Such rhythms differ, moreover, according to the role of the individual within the structure: for example, the manager of the shelter will make use of their clients' rest time after dinner to tidy up the kitchen and get breakfast ready; during the day, on the other hand, when the mountaineers are busy with their ascents, they clean the rooms and take care of maintenance and food preparation tasks. Many recent accounts also testify to a decisive change in usage: albeit differing depending on the context and accessibility – especially at intermediate altitudes – fewer mountaineers use shelters for overnight accommodation and as an outpost for ascents or crossings, and an increasing number of hikers use them during the day for a quick break before returning to the valley.¹⁵

- 29 Over the past ten years, many architects working in high-altitude areas have picked up on a change in demand and adapted their approach accordingly. This has resulted in a substantial upheaval of the ways in which huts were originally used, and thus also in their architectural configuration.
- 30 The building is increasingly conceived as a place of passage and consumption, with the primitive function of safe night shelter taking an essentially secondary role, or at least restricted to a limited number of visitors.
- 31 The formation of a large public with different objectives from those of mountaineers – contemplating nature and the landscape rather than the summit or the path, and for whom the hut is an end point rather than a means – and a new aesthetic conception of the mountain have both contributed to the creation of permeable, bright building envelopes enclosing comfortable interior spaces and in constant contact with the outside.
- 32 While in their original form huts were essentially reduced to enclosed containers shut off from the stimuli of the surrounding context, they are now specifically conceived as a tool for “looking out”, like a filter through which the landscape is displayed in a pervasive, almost pornographic manner.
- 33 The context is framed through select views (think of the telescope of the Gervasutti Bivouac), or, more simply, displayed through large windows, as with the large windows of the Moiry Hut (Baserga and Mozzetti, 2010) in Vallese or the Tschierva Hut (Ruch & Partner Architekten, 2003) in the Grisons.
- 34 This trend of great design appeal, capable of immediately improving the quality of the living space, could be ascribed to the demands of a “here today, gone tomorrow” approach to consumption on the part of the user. Unable to experience the complete, deep immersion of a prolonged stay in the region, the latter seeks to enjoy the setting they are visiting for a short time in a spectacularised, preselected manner: think of the proliferation of panoramic viewpoints, landscape frames and walkways on the Alps, for example, or of the varied architectural *branded divertissements* such as the recent “step into the void” at the Aiguille du Midi, “a room with a view” and the “starlight room” in the Dolomites, or the impressive scale of the “Skyway” cable car at Mont Blanc, which, with a total hourly capacity of around 1,400 passengers, goes from Courmayeur up to the circular terrace of Punta Helbronner, at over 3,400 metres.
- 35 In parallel with such interactions between building and context, the change in clientele has inevitably altered living comfort and standards. There is an increasing focus on quality and the layout of interior spaces, which necessarily affects the architectural arrangement of the night area in huts and bivouacs.
- 36 Starting with the “Franciscan” rooms of the early shelters, equipped with simple straw mattresses on the floor or, at best, wood planking spread across several levels in one multi-purpose dormitory, the specific design theme evolves through a journey replete with anthropometrically experimental solutions: from Julius Becker-Becker’s functional wooden structures, to Charlotte Perriand’s elegant spatial layouts, Jakob Eschenmoser’s organic radial designs, the elaborate design solutions inspired by nautical design and aviation of the early ‘60s and ‘70s, and the refined solutions based on the separation of rooms and the creation of reserved micro-areas and niches, by dividing up the levels and furniture (for example in the Vallanta hut at Monte Viso by Maurizio Momo and Giuseppe Bellezza, or the bivouac on Grintovec by Miha Kajzelj).

Mention should also be made of the bivouacs where the functions of day and night fully overlap, and where design devices are taken to their logical conclusion, often through mobile or mixed solutions.

- 37 Nowadays, the single dormitory, as spartan as it was distinctive, has been definitively superseded in the many huts – especially the most accessible and visited ones – that favour a passage to smaller rooms, providing greater privacy and levels of comfort often of almost hotel standards, signalling the hut's increasingly effective transformation into a place of transit and commerce, suitable for intensive tourism.
- 38 While hut users usually only stay one night in high-altitude areas, in many cases the manager spends the entire season in the building, without ever going down to the valley. This prolonged stay has various interesting consequences: the person maintaining the hut in fact acts as the permanent custodian of the region, looking after its *aménagement*, and keeping the overall integrity of the location, its paths, works and structures in order.
- 39 Beyond their function in terms of accommodation, food and shelter, such figures also act as a point of reference for hiking and mountaineering questions: thanks to their constant surveillance, they are the ones that know and inform people about the mountain conditions (geography, meteorology, human movements), guaranteeing safe conditions for visitors, as a first step. Huts and bivouacs are also an interesting *unicum* from a management perspective: they are always open and freely accessible all year round (when the main body of the hut is closed, a winter premises remains open in almost all such structures), both during the day and in the middle of the night, always ready to welcome travellers and those in need of shelter, thus establishing a specific configuration of independent public space in high mountain regions.

10. Bivouac Gervasutti above the Freboudze glacier (ITA), 2835m, LEAPfactory, 2011

Photo Francesco Mattuzzi.

11. Cristallina Hut, canton of Ticino (CH), 2575 m, Baserga Mozzetti, 2002

Photo Filippo Simonetti.

12. "L'heure de la soupe" (soup time)

Source Illustration from Samivel, "L'heure de la soupe", Éditions Jansol, Chambéry, 1950.

13. Life in the hut

Photos from the movie "Messner" by Andreas Nickel, 2012.

Conclusions

- 40 Unlike other contexts with pressing building and housing needs, the architecture of high-altitude huts does not qualify as a *necessary fact*: after all, it is directly connected with the practice of mountaineering, on whose utility Lionel Terray has expressed himself clearly, defining it in absolutely contemporary terms as ‘a conquest of the useless’.¹⁶
- 41 The question of the need to spend the night at high altitudes, at least for mountaineering purposes, thus remains tied to the sphere of spare time (or professional, for a few specific figures such as mountain guides and those responsible for maintaining alpine shelters), with a diverse range of possible nuances and variations: sports, competitive, spiritual, aesthetic, contemplative, emotional, and cognitive.
- 42 The question is thus purely cultural and self-deterministic in nature and, as such, offers great potential from a didactic perspective, capable of triggering reflections at both the individual and social level on models of behaviour and management practices, the environment, and coexistence, which are also objectively influenced by built space in the high mountains.
- 43 Based on a cognitive process similar to that of the pioneers of the nineteenth century, architecture allowing for a “conquest of the night” can still result in new “discoveries” today. A temporary detachment from the world offers a momentary opportunity to reconsider points of view and to introduce a potentially innovative act of discarding: a

“vertical” vision permitting a zenith comprehension of space and urban dynamics, which can trigger unusual, unexpected perspectives, compared to the “immersive” perception to which we are accustomed in an urban context.

- 44 High-altitude areas are thus an ideal setting for testing a qualitative conciliation of the natural environment and human intervention. Nowadays, questions that constitute universally accepted technical and cultural prerogatives, such as the sustainability of such interventions, efficiency and self-sufficiency in terms of energy, and technological innovation, are in fact tackled *in primis* in structures in high mountain areas (where they are not optional), throughout the twentieth century and up to the present day, establishing a fruitful tradition of experimental avantgarde design.¹⁷
- 45 Mountain shelters can thus offer a potential “path of reconciliation” between the omnivorous actions of human colonisation executed in the past – vast ski areas, careless building and development work with large residential and hotel complexes, road connections and cable cars – and the alpine region.
- 46 Extended stays in high-altitude areas, or even just for one night, immediately highlight the difficulty of satisfying even the most basic housing needs – such as water, food, space, heat, and light – which are taken for granted in the standard urban context, shedding light on the concept of the ‘limit’ at various levels: spatial limits, limits of movement, physical limits, mental limits, and limits in resources.
- 47 Contrary to the unquestioning consumer approach in the urban sphere, space in high mountain regions makes it possible to transmute limitations and potential problems into values and opportunities¹⁸ by placing quality before quantity and slowness before frenzy, leading to a rediscovery of cultural models centred on value in use and frugality. As Alexander Langer so clearly put it: *Lentius, profundius, suavius* (“slower, deeper, gentler”), in opposition to the *Citius, altius, fortius*, or rather “faster, higher, stronger”, which seems to characterise the models of urban life.¹⁹
- 48 Between the hut’s walls, time, too, is measured differently, adapting both to the dictates of nature (hours of daylight, the weather, mountain conditions, seasons, etc.) and to the subjective conditions of individuals (training, psychological and physical conditions, motivations etc.), and certainly not to predetermined models or pre-set plans. Even contrast and conflict can be perceived as values: nature-artifice, hot-cold, exposure-protection, and waiting-action are just some of the oppositions that characterise the space and dynamics of high-altitude regions.
- 49 These aspects are intrinsic to the character of huts, such as the fact that they are only used for temporary dwelling: “Cette ambivalence fondamentale fait de la cabane un lieu de contradictions où coexistent le haut et le bas, l’ouvert et le fermé, le mobile et l’immobile, la vie et la mort” (Tiberghien, 2005).
- 50 All of this presupposes an adhesion to social models based on the sharing of space, resources, and problems. From the roped party to the dormitory, the space in high-altitude areas calls into question issues such as reciprocal coexistence and respect, focusing attention also on the notion of the necessity of sacrifice to achieve results. This includes the possibilities both of reaching one’s goal and of giving up: merely having reached an hut necessarily implies an act of exertion and a determined desire to find shelter between its walls.
- 51 Lastly, the individual’s capacity to evaluate and make decisions is central in a condition in which liberty and responsibility are inextricably linked and closely connected with

the ability to plan: understanding, visiting and living in mountain areas requires intention, study, and planning, thus constantly calling into question motivational aspects and calling for a reflection on the meaning of individual and social actions.

BIBLIOGRAPHY

- Bureau L., 1997.- *Géographie de la nuit*, l'Hexagone, Montréal.
- Camanni E., 2003.- *Di roccia e di ghiaccio, storia dell'alpinismo in 12 gradi*, Laterza, Roma-Bari.
- Camanni E., 2005.- «Il rifugio di montagna nel racconto alpinistico e nell'immaginario letterario», in *Fondazione Courmayeur, Architettura moderna alpina: i rifugi*, Quaderno n.17.
- Camanni E., 2015.- *L'incanto del rifugio. Piccolo elogio della notte in montagna*, Ediciclo, Portogruaro.
- Cantieri d'alta quota (a cura di), 2013.- *Rifugi in Divenire. Architettura, funzioni e ambiente. Esperienze alpine a confronto. Atti del Convegno. Trento 22-23 marzo 2013*, Accademia della Montagna del Trentino, Trento.
- De Rossi A., 2014.- *La costruzione delle Alpi: immagini e scenari del pittoresco alpino (1773-1914)*, Donzelli, Roma.
- De Rossi A., 2016.- *La costruzione delle Alpi. Il Novecento e il modernismo alpino (1917-2017)*, Donzelli, Roma.
- De Rossi A., Dini R., 2012.- *Architettura Alpina Contemporanea*, Priuli & Verluccha, Scarmagno.
- Dini R., 2011.- *L'architettura dei rifugi alpini contemporanei. Elementi per il progetto*, in Gibello L., 2011.- *Cantieri d'alta quota. Breve storia della costruzione dei rifugi sulle Alpi*, Lineadaria, Biella.
- Dini R., Gibello L., Girodo S., 2016.- *Rifugiarsi tra le vette. Capanne e bivacchi in Valle d'Aosta: dai pionieri dell'alpinismo a oggi*, Segnidartos, Biella.
- De Saussure H.B., 1786.- *Voyages dans les Alpes, précédés d'un essai sur l'histoire naturelle de Genève*, chez Barde, Manget & C., Genève.
- Gibello L., 2011.- *Cantieri d'alta quota. Breve storia della costruzione dei rifugi sulle Alpi*, Lineadaria, Biella.
- Gwiazdzinski L., 2014.- *Habiter la nuit urbaine*, in "Esprit" n°410, pp. 46-55.
- Gwiazdzinski L., 2015.- *La nuit dernière frontière de la ville*, L'Aube, La Tour d'Aigues.
- Joutard P. (présenté par), 1986.- *L'invention du Mont Blanc*, Collection Archives, Gallimard, Paris.
- Langer A., 1996.- «Più lenti, più dolci, più profondi / langsamer tiefer sanfter», suppl. a *Notizie Verdi*, n.17.
- Lyon-Caen J.F. (sous la direction de), 2003.- *Montagnes territoires d'inventions*, Ecole d'Architecture de Grenoble, Grenoble.
- Motti G.P., 1977.- *La storia dell'alpinismo*, Istituto geografico De Agostini, Novara.
- Pareyson L., 1954.- *Eстетica. Teoria della formatività*, Edizioni di Filosofia, Torino.

- Pinelli C.A., 1991.– «La conquista della notte» in *Airone Montagna*.
- Samivel, 1940.– *L'amateur d'abîmes*, Stock, Paris.
- Stephen L., 1871.– *The playground of Europe*, Longmans, Green, and Co., London.
- Straw W., Gwiazdzinski L., 2015.– *Habiter (la nuit) / Inhabiting (the night)*, "Intermédialités" n°26.
- Terray L., 1961.– *Les Conquêteurs de l'inutile. Des Alpes à l'Annapurna*, Gallimard, Paris.
- Tiberghien, G.A., 2005. – *Notes sur la nature, la cabane et quelques autres choses*, Éditions du Félin, Paris.
- Vivian R., 1986.– *L'épopée Vallot au Mont Blanc*, Denoël, Paris.

Documentaries

- De Marchi V., 2012.– *Il lusso della montagna*, Fondazione Architettura Belluno Dolomiti e Ordine Architetti PPC di Belluno, Documentary.
- Saul L., 2016.– *La montagne, nouvel Ibiza?*, Documentary.

NOTES

1. See: Pinelli, 1991
2. For a reconstruction of the sequence of shelters in the Alps, see: Gibello, 2011
3. On the scientific “discovery” of the high-altitude area, see: De Rossi, 2014
4. See: Joutard, 1986
5. See: Gibello, 2011
6. In the Morissian and more general sense of the term: the construction of shelters is not immediately a question of architectural design, since they are often makeshift constructions. The decisive contribution made by architects, engineers and technicians was registered later, especially during the twentieth century.
7. See: Bureau, 1997
8. See: Vivian, 1986; Gibello, 2011
9. See: Dini, Gibello, Girodo, 2016
10. See: De Rossi, 2016
11. As well as the publication of monographs, articles in periodicals and online concerning alpine constructions, one might note the increasing importance of huts in the international prize ‘Constructive Alps’ and the Italian prize ‘Rassegna Architetti Arco Alpino’.
12. For an overview of recent high-altitude constructions, see: De Rossi, Dini, 2012
13. See: Dini, 2011
14. See: Bureau, 1997
15. See, from various angles: *Cantieri d'alta quota*, 2013; De Marchi, 2012; Saul, 2016
16. See: Terray, 1971
17. For an overview on the workshop potential of high altitude areas, see Lyon-Caen, 2003
18. On this concept, see Pareyson, 1954
19. See: Langer, 1996

ABSTRACTS

The design and construction of huts in the Western Alps, which developed from the late eighteenth century and throughout the nineteenth, constitutes a key step in the process of discovery and cultural appropriation of the mountains. The installation of stable shelters offering overnight accommodation at high altitudes, superseding the precarious bivouac-style campsites, makes it possible to carry out wide-ranging scientific, alpine and geographic explorations there for the first time. Such shelters act as catalysts in the transformation of the alpine region from an ancestral space to an outpost of scientific knowledge, the “playground” of mountaineers, a place of symbolic and political conquest and, successively, a site of *loisir* for tourists.

In just a few decades, mountain guides and mountaineering associations played a decisive role in this process, initiating the progressive physical alteration of high-altitude areas and paving the way for a widespread building and infrastructural colonisation that has been constantly evolving to this day.

Structurally, mountain huts and bivouacs reflect the ways in which the space, landscape and time have been conceptualised and used over the ages, forming an interesting area of study: from the early structures, which were self-contained and impervious to the surrounding landscape, serving merely to provide protection from the outside, up to today’s *landmark* structures.

INDEX

Keywords: huts, architecture, landscape, high altitude, time

AUTHORS

ROBERTO DINI

Architect, Istituto di Architettura Montana, Politecnico di Torino
roberto.dini@polito.it

STEFANO GIRODO

Architect, Istituto di Architettura Montana, Politecnico di Torino
stefano.girodo@polito.it