

*Énoncé
théorique,*

CHIN JOU MARTCHA

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INTRODUCTION

Working in the city and going to the mountains has become normality for many people, who have easy access to the Alps, such as in Switzerland. One can book a room online for the weekend or rent an apartment for a whole week. The alpine region, just like the rest of the country, is being more and more built up. This raises the question: How should we build in the Alps?

Evil, fearsome, diabolic mountains, to name but a few terms, represent the perception of the Alps in the Middle Ages. It was not until the end of the 18th century that a change from a negative to a positive image of the mountain world occurred. In [Part One – Alpine Landscape](#) of our research, the history and the development of society's perception of the alpine region, will be explained in more detail. This alpine landscape forms the backbone of our *énoncé théorique*.

We investigate different building typologies in the Valais, more precisely in the Val d'Hérens, and their reaction and interaction with this particular landscape, with its challenging topography and its exposure to a harsh climate.

The title of this research, *chin jou martcha*, translated into English from the local dialect *patois*⁰¹, means "we went for a walk". To get a feeling of the alpine environment, both built and natural, we took a step back from the buzz and rush of the city, and literally went for a walk in the mountains.

Just as the old language, in Valais there are alpine building typologies, which have survived for centuries. In [Part Two – Alpine Architecture](#) of our research, we analyze alpine building typologies in the Val d'Hérens. The focus is on building materials, the form of the houses and the spatial order of the interiors. Our research is then compared with buildings that we find along a self-chosen hiking route from the village of St-Martin to the mountain hut Cabane des Becs de Bosson.

By looking at society outside of the alpine environment, discussed in [Part Three – Alpine Perception](#), we take a look at some

contemporary perceptions of the landscape and how much they have evolved since the Middle Ages. What are the expectations of modern society for a house, a construction an installation in the mountains?

Finally, our findings on how to build in the Alps, through our research on landscape, building typologies and perception, are summarized in a conclusion in [Part Four – Alpine Architecture Tomorrow](#).

01. Patois is an old French dialect that used to be spoken all over the French-speaking part of Switzerland. Today, Patois is slowly disappearing and only a few communities still speak this old dialect, such as in Val d'Hérens.





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PERCEPTION OF LANDSCAPE

*Soaked to the bone, tormented by a devouring hunger, shivering with cold, he stood exhausted on the edge of a rock and, in his terror, believed every moment that his last hour would come.*⁰¹

By reading this excerpt from tales and legends of the Waldensian Alps, one can easily feel the dread one might have had trying to cross the Alps. For a long time, humankind looked upon the mountains, nature and the landscape with a kind of sacred fear. To answer the question of this research, what it means to build in the Alps, we look at the origins of how the alpine landscape was perceived.

The first trace of representation of the landscape is found in the painting the miraculous fishing from 1444⁰². The landscape is therefore primarily pictorial before it is perceived physically within society. This painting is also the first to depict a biblical scene in a real landscape. The scene takes place on the banks of Lake Geneva in Switzerland. From then on, throughout the 17th century, nature was little known, it was even feared and connoted with negativity and incomprehension.

The origin of this fear is also biblical. In our Christian society we are direct descendants of Adam and Eve, who through their sin had lost paradise and caused the great flood⁰³. Since then, the human race has been forced to remain on earth and live its sinful life in a world where nature is evil and monstrous.

Travelers at that time, that had to cross the Alps for transportational or commercial purposes, came back to their homes with many stories about the mountains being the home of evil and of the most diabolical creatures. We found engravings made by Johann Jacob Scheuchzer, who is representing the existence of dragons and other monsters in the Alps, for example the flying dragon of Lucerne^x, that allegedly lived on Mount Pilatus. We can see that even a Cartesian mind still believed in a terrifying and diabolical nature.

01. Friedrich von Schiller, *der Alpenjäger*, 1817

Joseph Mollard Turner, *The Morning after the Deluge*, 1843

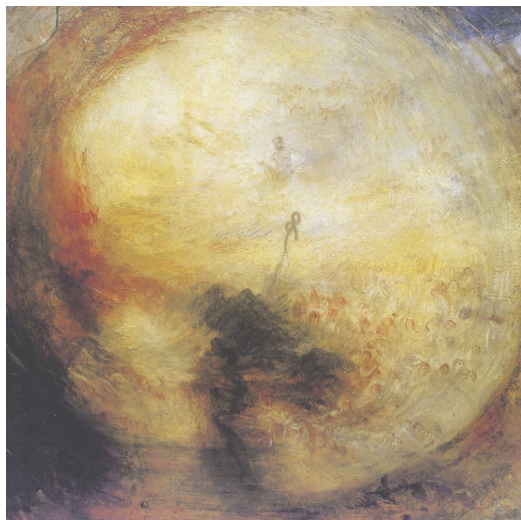
02. Konrad Witz, *the Miraculous Fishing*, 1444

Jakob Scheuzer, *Itinera per Helvetiae Alpinae Regiones*, 1707

03. Gospel according to Luke 5:4-11

Describes a very ancient catastrophic flood caused by torrential rains covering the entire earth. Known by the story of Noah's Ark in the Bible, this episode ends when the waters begin to recede after seven days of rain, the boat ends up stranded on Mount Ararat in Armenia and forces humanity to start over.

04. Jakob Scheuzer, *Itinera per Helvetiae Alpinae Regiones*, 1707



NEW PERCEPTION

*To say that man is a compound of strength and weakness, of light and blindness, of smallness and greatness, is not to put him on trial, it is to define him.*⁰⁵

This quote demonstrates the revolutionary impulse hovering over 18th century Europe, the so-called Age of Enlightenment. This century of re-thinking any order taken for granted at the time will allow for new thoughts about order and disorder in the post-flood era. As mentioned above, humankind started with the perception that nature was nothing but disorder and desolation, and now, in the 18th century, one proposed that nothing was more orderly than nature because it was a natural result of which the human hand had nothing to do with it.

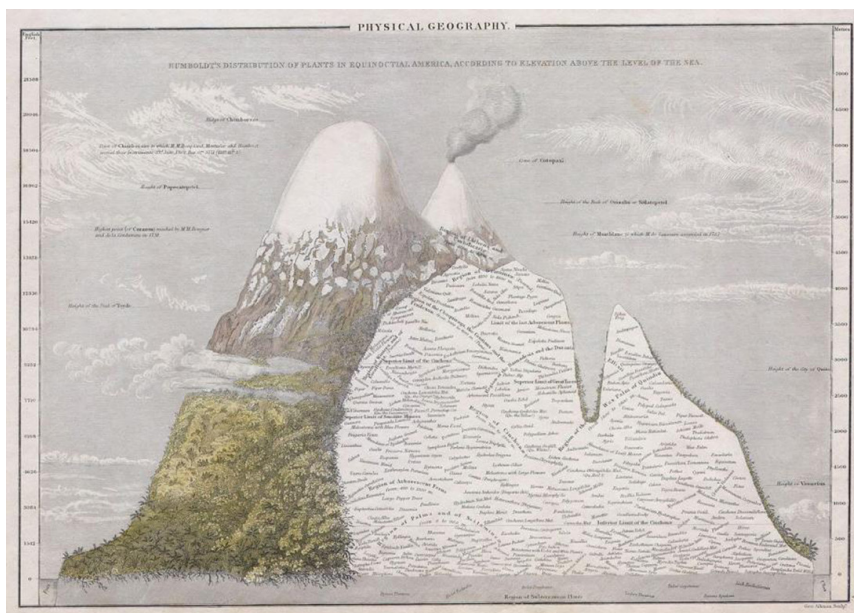
Thus, a new perception of this once fearful landscape seems to arise. A fascination was created around these enormous mountains; are they the result of fire, of volcanism, Neptunian theory, or are they the result of the collision of different plates creating gigantic geological folds going up to the surface of the earth? All these questions take us away from Scheuchzer's marvelous stories and bring us closer to recent scientific theories that can be defined and demonstrated by empirical explanations and findings.

If we refer to the first encyclopedia, the work of the Enlightenment, we suggest and push forward that scientists should go and consult nature⁰⁶. This new way of reasoning led a large number of scientists, scholars and researchers in Europe to study rocks and their composition. These techniques, coupled with the use of precise instruments and drawings, made Alexander von Humboldt famous as the first geographer. This German geographer, naturalist and explorer crisscrossed the earth with his compasses, sextants, theodolites, chronometers, thermometers, compasses, electrometers and so on, creating comparative charts of shape and height of mountains. He was the first to group together several mountains on a single map,

05 Denis Diderot, *pensées philosophiques*, 1746

Alexander von Humboldt, *Comparative Tables, Distribution of plants in equinotial America*, 1805

06 Nicolas Desmarests, *Géographie physique*, dans: *Encyclopédie ou dictionnaire raisonné des sciences, des arts et des métiers*, 1751



indicating their altitudes, surfaces, measurements and coordinates. Thus, for the first time in history, Humboldt gave the mountains an abstract form isolated from the whole mountain range of which it was part of.

A mountain is no longer a mountain by the criteria of how it looks to an observer below. It becomes a mountain in the name of instrumented measurements and intermediate representations, mainly the map and the statistical table.⁰⁷

Thanks to Humboldt paintings it was possible to have a common reference across several disciplines such as botanical, ecological and climatic sciences to compare their various results and draw common conclusions on the various ecosystems composing the alpine fauna and flora.

Another person who played an important role was Horace de Saussure from Geneva, Switzerland. In addition to being a scientist, he was one of the first alpinists to climb Mont Blanc in the French Alps at the end of the 18th century. This double role was to be found in his writings, in particular in his *Voyage dans les Alpes*, which opened the doors to his popularity. In this essay he mixed two writing styles, one narrative and one scientific. This double aspect allowed him to reach a wide public of readers. The scientific essay has a triple function.⁰⁸ Firstly, it serves as proof that the expedition to the summit of Mont Blanc took place. In a second part the author explains his methods and results in a more scientific and orderly way. Finally, the descriptions of the landscapes he travelled through give a more aesthetic touch. De Saussure explains his expeditions, paying particular attention to the effect of altitude on the human body.

Therefore people in the 18th century were dealing with a new way of describing and experiencing the mountains through new stories that combine scientific aspects with fictional ones so that everyone can relate to stories that combine both science and emotions.

07. Bernard Debarbieux and Gilles Rudaz, *Les faiseurs de montagne*, 2010, p. 29

Christian von Mechel, *Voyage de Monsieur de Saussure à la cime du Mont Blanc, 1787*

08. Claude Reichler, *Les Alpes et leurs imagiers*, 2013, p.104



THE ALPS THROUGH THE ARTS

*Here, a steep mountain has wall-like peaks,
A river of forest rushes down and falls steeply.
The river with its thick foam seeps through the cracks in the rocks
And rushes with force over its rampart.
The fine water shares the precipitation of the fall,
In the thickened air floats a shifting grey,
A rainbow shines through the atomised parts
And the distant valley drinks a constant dew.
An astonished walker sees rivers flowing in the sky,
That flow out of the clouds and into the clouds⁹*

This 49-stanza poem, written in the beginning of the 18th century, admires the Swiss alpine landscape, and contributes to the creation of the myth of the good mountain man. Thanks to its alpine nature, Switzerland had succeeded in creating a model of man, who remains free. It is the idea that Switzerland is now an exotic country that has managed to stay away from the cultural deluge of the rest of Europe¹⁰ and has thus preserved itself. One can also begin to see the start of the famous Swiss neutrality.

However, it was not until a few years later that the alpine myth¹¹ was made known to everyone by Jean-Jacques Rousseau when he published the *New Heloise*¹². In this book the author describes an almost ecstatic relationship between nature and people. One finds traces of letters from people coming to Switzerland on purpose to see the landscapes described by Rousseau.

Here is Vevey, I cannot express to you, Madame, how much I desired to see this town and its surroundings so praised by Rousseau, and which became so famous through his novel Heloise. I often said to myself, if the substance of this whole story is only a tale(...) ¹³

Rousseau's popularity brought the myth, imagined by Von Haller,

09. Albrecht von Haller, *Die Alpen*, 1729

Douanier Rousseau, *le rêve*, 1910

10. The Age of Enlightenment, that of progress and reason, was also a bloody century, where weapons were perfected and war became global, a century of massacres that culminated in the French Revolution.

11. Jean-Jacques Rousseau, *Discours sur l'origine et les fondements de l'inégalité parmi les hommes*, 1755 "le principe de toute morale (...) est que l'homme est un être naturellement bon, aimant la justice et l'ordre ; qu'il n'y a point de perversité originelle dans le cœur humain, et que les premiers mouvements de la nature sont toujours droits" (...) tous les vices qu'on impute au cœur humain ne lui sont point naturels (...) par l'altération successive de leur bonté originelle, les hommes deviennent enfin ce qu'ils sont."

12. Jean-Jacques Rousseau, *Julie ou la nouvelle Héloïse*, 1761

13. Jean-Benjamin De Laborde, *Letters on Switzerland*, addressed to Madame de M***, 1783



to another level and thus widened the notoriety that the Alps and Switzerland were acquiring. The same process can be seen in paintings. The Swiss painter Caspar Wolf, author of the *Vues remarquables des montagnes de Suisse*, a work of considerable ambition

*both scientific and aesthetic*¹⁴

Wolf had hiked numerous times in the Alps and through his paintings tried to transcribe a landscape that created a positive impact on the human soul. As a great intellectual and science lover, he also tried to combine scientific advances with artistic sensibility. The ambition of the *Vues remarquables des montagnes de Suisse* was

*(...) to give to see, that is to say to learn to see, to train the eyes of a public, always more numerous, which discovers the beauties and the mysteries of a new geographical space.*¹⁵

This democratization of the Swiss landscape through art and in particular engraving, a technique used for mass production, we witness a visual overproduction of our mountains, glaciers, waterfalls. This will lead to an over-frequented of certain places as can be seen on the Devil's Bridge that Wolf produces.¹⁶ This natural landscape previously feared becomes in the space of a century a landscape almost normalized by a new phenomenon; tourism in the mountains.

THE SUBLIME

The transformation of negative nature into a positive nature, or the exaltation for the mountains in 1800, when in 1700 nobody was interested in them, can also be explained through a thoretical movement called the natural sublime. The sublime is purely rhetorical in nature. Pseudo-Longin was the first to speak of it in the

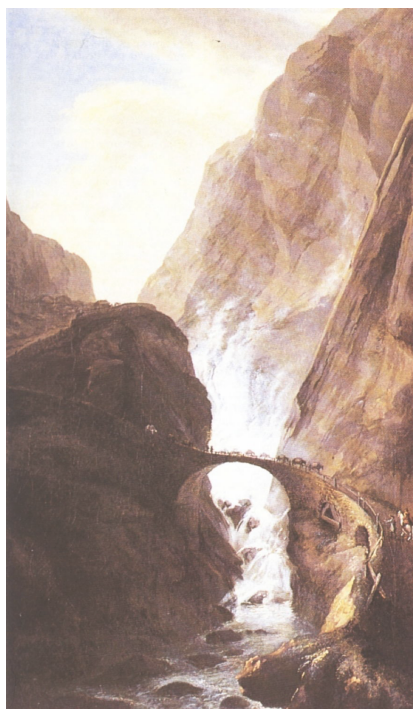
14. Claude Reichler, *Science et sublime dans la découverte des Alpes*, in: *Revue de géographie alpine*, tome 82, no 3, 1994, p. 12

15. *ibid*

16. Caspar Wolf, *Teufelsbrücke*, 1777

Caspar Wolf, *Der Obere Staubbachfall im Lauterbrunnental, 1774-1777*

Caspar Wolf, *Teufelsbrücke*, 1777



2nd century. The sublime is the art of better formulating a speech in order to persuade better. This long forgotten art was rediscovered at the beginning of the 17th century by Nicolas Boileau, who brought it up to date by associating it with theatre. At the end of the 17th century, Jon Dennis added to the movement his mixed feeling that experiences can bring with them. One can be afraid but it is this fear that brings a sense of fascination. And in the end the sublime is that, it is to use the shock of the impact of wild nature on the human being to transform it into its opposite and into a source of freedom.

Edmond Burks, the great English theorist of the sublime, put forward this theory to explain the revival of the perception of nature in Europe in his book and bring the sublime from theatre to landscape.

The passion caused by the great and sublime in nature, when those causes operate most powerfully, is Astonishment; and astonishment is that state of the soul, in which all its motions are suspended, with some degree of horror.¹⁷

Burke's nature is a space that alternately provokes fascination and fear, attraction and terror. It arises from the encounter of an observing subject: the tourist, the scientist, the poet, the scholar and an observed object: nature. The sublime uses the latter as the source of an ambiguous pleasure proportional to the fear it arouses. The sublime will enable the philosophers and artists of the time to ideally define the many natural dangers and the wonder of nature's fascinating works. Waterfalls, seracs, erratic boulders, glaciers, and axe-cut peaks are all elements that imply the omnipotence of nature. The concept of the sublime enabled de Saussure and Caspar Wolf to bring science and aesthetics closer together.

But this leads to ask whether nature is really natural? In the end it is the result of a cultural process and its perception is ultimately the result of a fashionable image that society gives it. Nature undergoes the cultural, aesthetic filters of painting, poetry and also the Cartesian filter of science methods. Caspar Wolf's paintings show images of wild nature that interest everyone. This transformed unknown,

17. Edmund Burke, *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*, 1757, p.53-79

John Martin, *The Great Day of His Wrath*,
1851

Immanuel Kant, in 1764, made an attempt to record his thoughts on the observing subject's mental state in *Observations on the Feeling of the Beautiful and Sublime*. He held that the sublime was of three kinds: the noble, the splendid, and the terrifying.



chaotic places into sites that everyone knew. This process makes the Alps interesting and turned Switzerland into a popular destination. The Staubbach waterfall, the Bernese Oberland, has been painted by Swiss and also by foreign painters.¹⁸ This once feared nature became a place of almost exaggerated tourism.

This context represents the European imagination of the Alps. It gives people who have a lot of precise ideas about places, who know where to go, why and how without necessarily having been there.

THE ARCHITECTURE OF THE ALPS

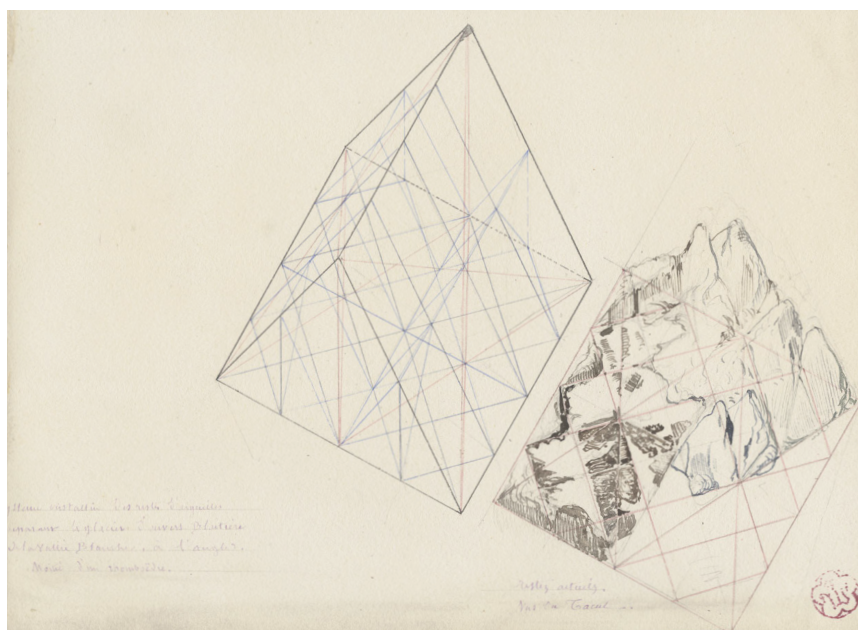
It goes without saying that the frenzy around the Alps in the arts and sciences started from the 18th century led architects to join the movement. For a long time the terms, such as *raccard* or *chalet*, did not interest the people. On the contrary, these terms were even negatively connoted, representing the dwelling of the poor. Then, always linked to the fate of nature, that is like we've seen before in the center of all discussions, this architecture became fashionable. In the 19th century, mountain huts were represented in engravings and paintings of the landscape. These cottages then began to be reproduced for real in places such as Armenville in the Paris region or in England in the famous English gardens. This was the beginning of the Swiss aesthetic taste in architecture.

Architects such as Eugène Viollet-le-Duc, John Ruskin or Bruno Taut took a closer look at the Alps. The Mont-Blanc massif in particular, which Viollet-le-Duc made his research area. He created a geographical map of Mont Blanc through the research of cartographic documents. This work is reminiscent of the Saussurian methodology, of which Viollet-le-Duc is perfectly aware. It was therefore as a connoisseur of the work already done on Mont Blanc that he carried out his work, the thesis of which was that the Alps were formed by geometry, of which he imagined a crystalline system whose ruins descended in regular forms. It would thus be possible to restore the Alps subject to

18. Claude Reichler, *La découverte des Alpes et la question du paysage*, 2002

Viollet-le-Duc, *Le massif du Mont-Blanc*,
1868

Viollet-le-Duc, *Système rhomboédrique du
Mont-Blanc*, 1868



*(...) an enormous erosion, not to say [...] a fall down like one of a house.*¹⁹

John Ruskin had a phenomenological approach to the Alps. In his book *Writings on the Alps* he speaks of a divine interaction that governs the relationship between mountain and man. He painted a multitude of drawings aimed at giving an authentic description of the landscape. Ruskin tried to influence and give a kind of procedure to painters on how to paint landscapes. One must differentiate between simple topography, which remains realistic and faithful, and Tourneurian topography, which

*(...) as far as possible, reproduces the impression of the mind of the viewer of the painting (...)*²⁰

What is interesting to note and compare, between Viollet-le-Duc and Ruskin, is the way in which they describe a pristine and intrinsic nature. Humankind had exploited this nature very little and still observed a timidity towards this gigantism.

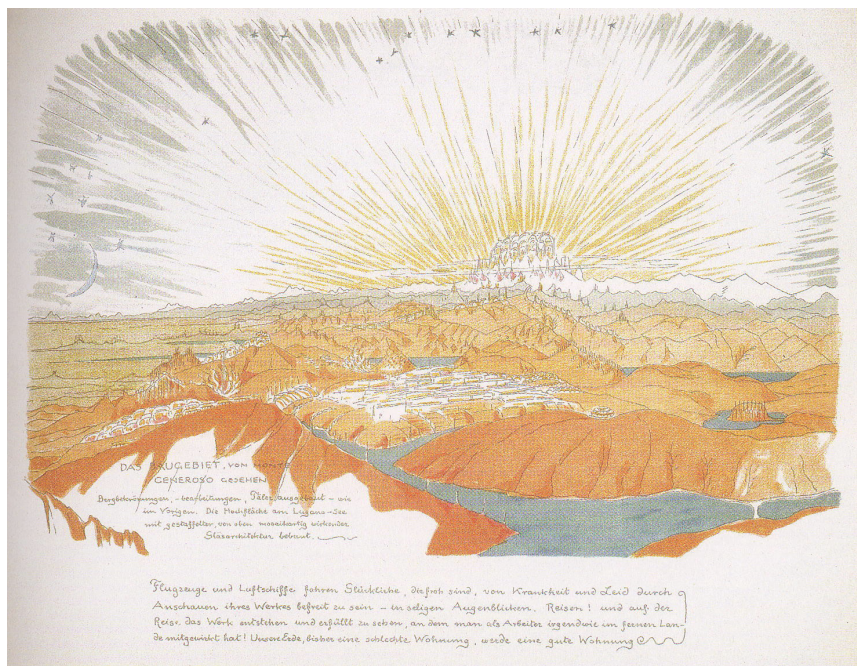
In contrast to the first two, Bruno Taut offers a completely different view of the alpine landscape. In his book *Alpine Architektur*²¹ he imagined a nature devoid of all utility. However, deeply affected by the horrors of the First and Second World Wars he believed that only a reconciliation with nature and its origins would enable human beings to re-harmonise, to accept themselves again and to live again. He proposed gigantic multi-coloured structures on the summits of the mountains that allow people to dream again. Through his work, we see a new vision and approach, of the people, towards nature. For the first time in history, people thought of inserting themselves into and building in this nature.

19. Jean-Luc Seylaz, Viollet-le-Duc, la plume à la main, in: P. Frey, E. Viollet-le-Duc et le massif du mont-blanc 1868-1879, 1988, p.87

Bruno Taut, die Stadtkrone, 1919

20. John Ruskin, Writings on the Alps, Texts réunis par E.Sdegno et C.Reichler dans, Le voyage dans les Alpes 2013

21. Bruno Taut, Alpine Architektur, 1919



ACCELERATION

The beginning of industrialization brought about a change in society's habits. First of all, the hotel industry was born in the 19th century, and when the use of architecture, to perceive the landscape, was understood, it was revealed to the general public. From then on, the thrill that was spoken of earlier was mastered. It is no longer necessary to put oneself in an extreme situation to understand and interact with the mountain and the landscape.

The birth of motorization led to euphoria. This euphoria resulted in breakthroughs, ranges and accessibility for all to this nature. The alpine landscape was no longer limited to the literature of Haller or Rousseau, the paintings of Wolf or the utopia of Taut. The landscape became in motion thanks to trains, cars and planes. The speed of movement challenged the perception of these landscapes.

Landscapes were from then on naturally represented with locomotives and hotels in the middle of nature. The confrontation of two previously opposing worlds became normalized and obvious. The alpine presence had become strongly marked by the interference of humankind. The landscape was wounded and its agony began.

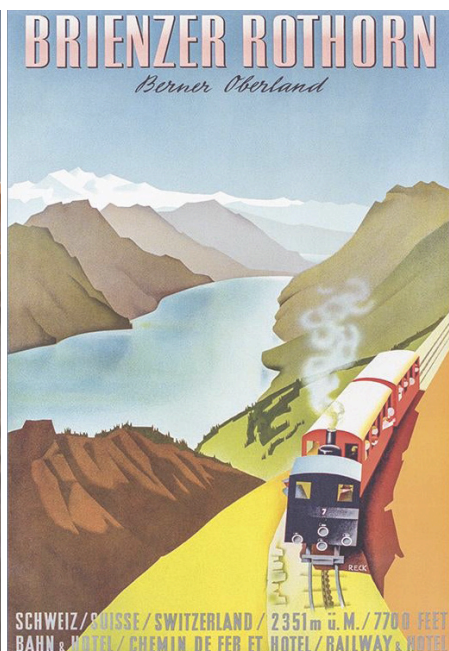
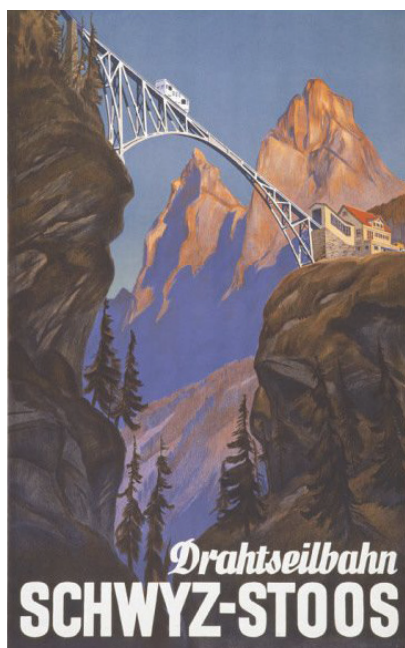
There comes to mind the Heidi myth.²² This little city girl felt frustrated by the atmosphere and speed of the city and subsequently went on holiday in the mountains to stay with her grandfather. After a rough start, one understood that the naturalness of the mountain man, who is wrongly described as rough and not social, prevails and that this rhythm of life is a rhythm that everyone wants. But isn't it hypocritical of one to believe this? Because the myth of Heidi was born precisely from marketing and from the moment when the so-called natural landscape was destroyed. Doesn't this iconography created around this little girl serve to make ordinary people accept that, yes, you have to go to the mountains, but that, no, you don't destroy nature by doing so? Is there still access to nature? If so, what is the image of this nature and is it still authentic?

Without being bitter, we can say that the acceleration of life and transportation has brought about a new way of perceiving the

22. Johanna Spyri, *Heidi*, 1880

Swiss postcards, 1938

Heidi, a 5 year old girl, goes to visit her grandfather who lives in a recluse in a mountain pasture. The grumpy old man, however, comes to appreciate this little girl from the city. This novel shows the poverty, hunger and inhuman working conditions in the factories that were commonplace in 19th century Switzerland, but also the contrast between the austere life in the mountains and the urban setting of the daily life of the emigrants.



landscape. One can no longer stare at what is close at hand, but our gaze is now focused on what is far away. Therefore, *the constances*²³ become identities known to all, a sort of point of strength that can be a hamlet, a waterfall or an exceptional identity. The journey that was a coherent and logical tangle of elements one after the other becomes a heterogeneous heap.

The Alps as we have seen them, through paintings, myths or scientific essays and through the eyes of painters, geologists, scientists, architects or simply through our eyes as simple living beings has occupied and occupies a perpetual fascination. It is now our duty as futur architects not to forget the past and not to dream of an ideological future. But to try to propose a way of doing and living in the mountains that is more in line with our origins, which, let us remember, are made up of fear and respect.

Thus, for human existence, however remote, nature is the source. Since the beginning of time, one has tried to acquire knowledge about, tame and master this wild world and the alps. But while the great artificial constructions the people have created may reflect personal importance, the wilderness has a born, elemental force that embodies life. These majestic places, reminders of a land without history, must be listened to and respected. We cannot of course live permanently in these extreme places, however, we can remember our origins during a journey.

23. Claude Reichler, *Le découverte des Alpes et la question du paysage*, 2002, p18

Walt Disney displays model of Matterhorn, 1958

The central notion for Augustin Berque's theory of landscape is that of *mediance*. Mediance is a relationship that the landscape manifests between man and natural space, man as a subject and as belonging to a community. In other words, the landscape is at the same time a matter of three dimensions: one bio-physical: determined by natural conditions, the second cultural: a place of memory and the third subjective: as a phenomenological perspective. The notion of mediation makes it possible to understand how and why these three scales of the landscape must be seized in solidarity.







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ALPINE BUILDING TYPOLOGIES

Do not build picturesquely. Leave such effects to the walls, the mountains and the sun. The man who dresses picturesquely is not picturesque, but a hanswurst. The farmer does not dress picturesquely. But he is. (...)

(...) Pay attention to the forms in which the farmer builds. For they are the congealed substance of the ancestors' wisdom. But seek out the reason for the form. If the progress of technology has made it possible to improve the form, always use this improvement. The flail is replaced by the threshing machine.

The plain demands a vertical structure; the mountains a horizontal one. The work of man must not compete with the work of God. (...)

(...) Be true! Nature only holds with the truth. (...)

Do not be afraid of being called unfashionable. Changes to the old way of building are only allowed if they mean an improvement, but otherwise stay with the old. For the truth, even if it is hundreds of years old, has more inner connection with us than the lie that walks beside us.⁰¹

Not many countries have built as many different types of houses in such a small area as Switzerland. Swiss farmhouses often show small variations in local characteristics even within a short distance. In addition, one often associates a type of house with a landscape. The houses leave a deep impression on the observer, causing the same image to involuntarily reappear in memory when we think of a particular landscape. Thus, we identify the Mittelland with the Hochstud houses and their massive, pitched roofs, the Engadiner house with its picturesque, incised plaster facades, the Ticino with its stone *rusticos*, and the Valais with its stone and wooden huts.

This second part, "Alpine Architecture", explores the wooden huts of the Valais in more detail. In particular, we will discuss alpine building typologies found in the Val d'Hérens, located in this region. We will focus on rural residential and farm buildings, which dominate the high-altitude settlements, as well as mountain huts. Other buildings,

01. Adolf Loos, Regeln für den, der in den Bergen baut, 1913, translated from German

Four different building typologies, to only name a few, in Switzerland: Hochstud house, engadiner house, rustico & Valais chalet



such as hotels or other infrastructures for tourism, are mentioned in passing but are outside the scope of this work.

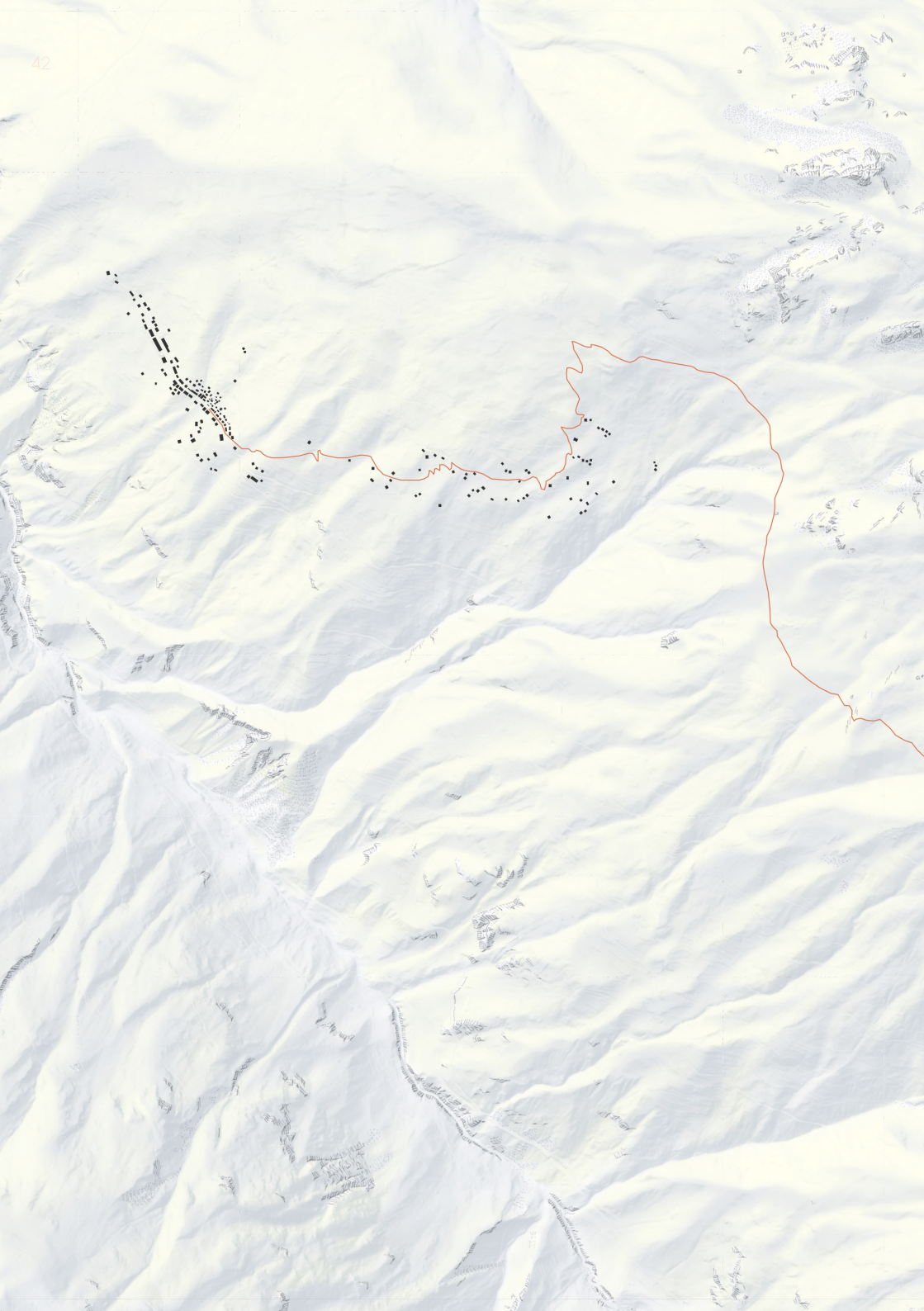
In addition, we will consider regional architecture, including the continuity and discontinuity of typical elements. Since they were first constructed, alpine buildings have been exposed to a harsh climate and natural hazards, such as avalanches, landslides, rockfalls, wind pressure and storms. For several hundred years, these buildings have evolved and adapted to extreme environmental conditions. They thus serve as witnesses to a very intimate interaction between nature and the landscape. Based on our observations, we will compare the external features of the buildings' appearances and their relationship to the landscape. Furthermore, we aim to offer an overview of the building materials, the forms of the structures and their spatial arrangements.

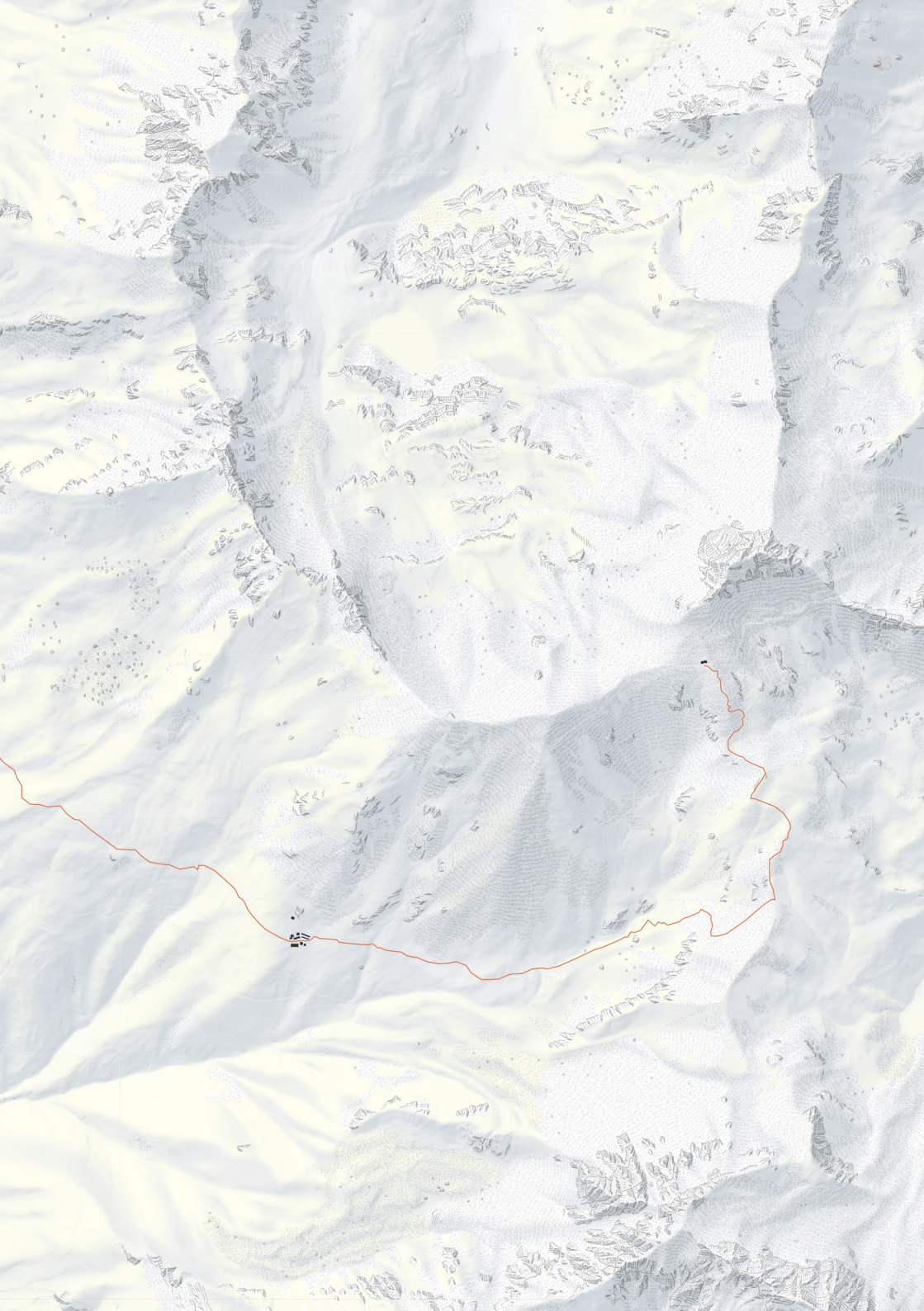
A hike on foot through the Val d'Hérens is the inspiration for this work. Walking is an excellent tool for observation, as the walker cannot avoid or overlook the landscape the way one might if travelling by car. Moreover, the slowness of walking remains its best advantage for effective observation. Starting at the high-altitude village of St-Martin, we hiked through *mayens* and beyond the forest edge to the alp l'A Vieille and then to the Cabane des Becs de Bosson. The alpine buildings we encountered on our hike provide the basis for this research.

*Map of Switzerland with the Val d'Hérens
marked in black*

*Next page: Hiking trail vom St-Martin to
the Cabane des Becs de Bosson*







VAL D'HÉRENS

The numerous valleys in the Valais are characterised by their culture, economy and landscape, which differentiate them from one another. Each valley has its own character, its own charm. The Val d'Hérens is one of many small side valleys of the Rhone Valley in the Lower Valais. It stretches from the town of Sion in the north to Les Haudères in the south, where it branches out into other side valleys. At the settlement of Hérémence, the valley branches west into the Val d'Hérémence, which contains the Grande-Dixence, the highest gravity dam in the world. The English name for Val d'Hérens, the Eringer Valley, comes from an old local breed of small, reddish-brown cows of the same name.

The Val d'Hérens has long been home to a rural population. Due to the geographical separation of the valley from the lowlands, its inhabitants lived self-sufficiently until well into the 20th century. Established around 1040, St-Martin was the site of an early civilisation in the Val d'Hérens. The commune of St-Martin lies in the heart of the valley and stretches across both of its sides. For centuries, the community lived in a closed economy: money was scarce, and communication with the lowlands was slow and dangerous. Only with the improvement of transport routes did the community open up to the world. The construction of the Grande-Dixence Alpine dam has eased the living conditions of the inhabitants by creating new jobs and thus increasing the community's income.

In addition to farming, the Val d'Hérens is also known for mountaineering. Numerous peaks and hiking trails attract tourists as well as the local population. The highest structures in the Val d'Hérens are the mountain huts. Traditionally, they could only be reached on foot, although they are now accessible by mountain bike or, in the winter, skis and snowshoes. This building typology tells the story of alpinism.

Eringer, the queen of the cows

Grand-Dixence



ALPINE FARMHOUSES

Farmhouses are the result of centuries of development and form a valuable part of the image of the Swiss cultural landscape. The houses radiate a natural harmony that is involuntarily perceived as beautiful. Subsequent additions and conversions of these buildings can appear disconcerting.

These traditional buildings represent an excerpt from a certain moment in time. Only 150 years ago, settlements differed in their composition. Houses are alive; they emerge, grow, flourish and disappear again. These changes can happen slowly or quickly, depending on the changing technical, economic or cultural factors that affect them. What now seems to be venerable and worthy of preservation was not always viewed as such, and the economic and social conditions of the present will in turn change and reshape the image of rural buildings. However, as an expression of a culture that has existed for centuries, the old buildings also deserve attention. It is important to understand them better, to recognise their essence and their diversity.

Through the isolation to the Rhone valley, the Val d'Hérens was also characterised by a building culture typical of the place. Rural architecture reflected the everyday lives of the inhabitants. The buildings were made of local materials, constructed for single families and built following simple construction methods. Rural architecture is characterised by pragmatism and tradition, both of which contribute to identity.

In their many forms, these buildings had to meet both the economic demands and the needs and desires of their inhabitants. These rural houses also reflect the skills of the builders and generations of craftsmen.

Farmhouses are, of course, functional buildings. They offer farmers and their families shelter and protection, which enables them to earn a living. Additionally, farm buildings house animals as well as necessary supplies and equipment. Farming families typically owned farms consisting of several buildings, each of which had its

own purpose. In general, a distinction was made between residential and farm buildings. These buildings were located in the high-altitude main village, the *mayens* and the alps. Families moved from one location to another in a seasonal rhythm, evidence of a unique form of alpine nomadism.

HISTORY

Inhabitants have shown an interest in making economic use of the various altitudes of the alpine region for hundreds of years. In the 16th century, the larger settlements of the Val d'Hérens were established. The Valais people remained averse to the innovations of modern life for much of their history. As a result, highly autonomous settlements occupied the side valleys until well into the 20th century.

For more than 4,000 years, farmers have used the alpine pastures above the tree line for their livestock during the summer months. Their farming practises developed into an economic cycle that adapts to the seasons. The lands used for livestock and agriculture are complemented by their own forms of architecture. During the summer, people reside in the alpine huts, while in spring and autumn, they stay in *mayens* on the intermediate levels. In the winter, they live in the main village.

The settlements in the Val d'Hérens have developed and changed over time largely due to climatic and economic conditions. In the alpine region, the economy was strongly influenced by natural forces and other natural conditions until the late 20th century. Constant seasonal and economic changes and permanent structural changes to the settlements have transformed the inhabitants into alpine nomads.



From Hérémente, we see the high village of St-Martin on the opposite side of the valley. The village is barely recognisable and blends into the natural surroundings. Perched above a hillside, the village lies along a road like pearls on a necklace. The denser village centre stretches towards the north until only a few small houses remain along the main road. Towards the neighbouring village of Suen, the density of the houses increases. Above the village, we can see terraced slopes and a forest that wraps around the mountains like a belt.

We stroll leisurely through the village. To our right are tall dwellings and to our left are lower and smaller buildings. Or at least it looks that way because they are one level lower. In just a few minutes, we see only empty grassy slopes to the side of us.

We turn back and now stroll through the narrow alleys of St-Martin, over short but steep passages through the rows of houses. No matter which direction we look, the houses are always set against an imposing mountain backdrop.

MAIN VILLAGE

The choice of location for a settlement was strongly influenced by climatic and natural conditions. South-facing slopes with year-round sunlight were preferred, as these conditions were beneficial for livestock, agriculture and harvesting crops. Other factors that influenced the choice of location included proximity to a water source and protection from natural hazards such as avalanches, glacier collapses and landslides. It was sometimes necessary to relocate because of the latter. Thus, those living in high-altitude settlements have always evolved and adapted.

The farmer requires several buildings, which together constitute a farm. The farm consists of a small group of buildings, which are constructed separately and serve very few functions. This type of structure is called a "multi-house construction". Pure multi-house construction indicates the complete separation of buildings that serve only one purpose. The division of the various residential and farm buildings, which are distributed throughout the village, leads to a scattered farm. Usually, a farmer owns a widely scattered plot of land across several levels. In the alpine region, the farms can even extend vertically over different altitudes. Farmers typically build their houses on the lowest level in the village, close to cultivated land which they use for farming.

RESIDENTIAL HOUSES

The houses and their forms are primarily dependent on the building materials available. In the Middle Ages, the materials used were almost exclusively found on site. It was only later, in the 19th century, when transport and trade became easier, that it became possible to use building materials from other areas. The latest century brought significant new methods of construction and types of materials. Therefore, the most important components of traditional buildings depended on what the surrounding area offered: stone and wood.

It is commonly known that wood insulates against the cold. In fact, a 14cm thick timber wall keeps out the cold about as well as a 60cm

The high-altitude village of St-Martin



thick stone wall. Moreover, the alpine region is rich in inexpensive coniferous wood. Accordingly, block construction seems to be the natural choice for the alpine region. In alpine houses, different types of construction are often combined: timber construction is used for the parlour and solid construction for the kitchen. The substructure of a wooden farmhouse is usually made of stone, which provides greater durability than wood and necessary protection against the dampness of the soil.

Looking from one side of the Val d'Hérens to the other, one has the feeling of standing in an area purely of wooden buildings. However, when looking at a village from the mountain slope, solid stone constructions and slate-covered roofs are noticeable.

In the Valais, block construction is often combined with a foundation of stone construction. The stone or solid construction is unexpectedly beautiful, especially when the walls are unplastered. With great care, the craftsmen partially hewed the stones and then stacked them on top of each other. The structure's solid walls function as a load-bearing framework.

In the Val d'Hérens, the typical dwelling house contained a large foundation of stone blocks from the nearby glacial moraines. Depending on the slope of the mountain, the house could be built into the hillside. A stone building in the basement protected against ground dampness, while brick walls enclosing the kitchen and stone slabs above the roof protected against fire.

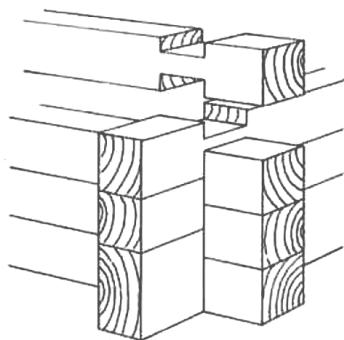
All wooden structures, including those of the farm buildings, are of block construction. Alpine block construction is one of the simplest types of construction for wooden houses. Wood is gathered from the widespread pine forests (especially larch) of the alpine region, and horizontal logs or beams are laid crosswise on top of each other to form a solid block. For residential buildings, squared timber beams with a rectangular cross-section are typically preferred to create a solid lay-up.

The gable roof is predominant in the alpine region. With this type of structure, the two roof surfaces slope towards each other at the ridge. Natural materials are used to cover the roof. Thin slate stones,

Residential house with a stone kitchen section and a wooden parlour. La Forcla, Val d'Hérens, 1791

Timber beams are laid crosswise on top of each other forming a block

Block construction made of timber beams with a rectangular cross section, Villetta, Val d'Hérens



which are prevalent in the area, are common roof coverings. They can be laid on a relatively gently sloping roof and do not slip because of their weight. Today, some roofs are also made of tiles or sheet metal.

On most of the buildings in the Val d'Hérens, the ridge is oriented perpendicularly to the slope. The gable facade faces downhill, and the rear part of the building is usually dug slightly into the slope. In addition, the houses are rectangular in shape due to the use of timber and block construction. Above the solid base sits the superstructure of sun-tanned wood. The multi-storey, habitable part of the house is closed off by a heavy gable roof. In addition, the window openings are generally quite small. They are irregularly distributed in the façade and can be closed with a shutter. Windows can be lined up single, double or in threes next to each other. Traditionally, the living conditions in these buildings were very cramped. Beds were often pushed under one another during the day to create more space. Due to the lack of space, the staircases were placed on the outside.

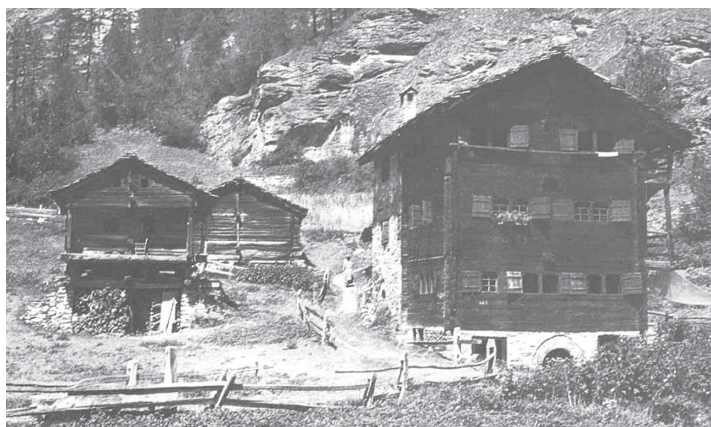
Most dwellings consist of three or four storeys, with a separate family living on each. Thus, the multi-family dwelling is not a modern concept and has existed in this region since the Middle Ages. Each dwelling has its own entrance, which is accessed by an external staircase on the eaves side. In some cases, double storey houses were built with two flats on one floor.

The dwellings are often tall and tower-shaped, a form that has several structural advantages. For instance, the block construction allows the roof to be easily removed to add additional storeys. The addition of vertical storeys is advantageous, as natural hazards such as landslides make it unsafe to spread out dwellings horizontally.

The dwellings of the alpine villages must contain rooms that meet the needs of the inhabitants, including rooms for cooking, eating and sleeping. The stone base usually contains a cellar, and the timber superstructure generally consists of two rooms arranged one behind the other on the same level. In terms of the interior arrangement, the

*Farm with a residential house, a stable
barn and a granary, La Fauchère, Val
d'Hérens, 1543*

*Multi-family house with a stone kitchen
and a wooden parlour. An exterior
passageway and staircase access the
building on the eave façade. Evolène, Val
d'Hérens, 1786*



parlour and the kitchen are oriented in the direction of the ridge, with the parlour on the valley side. From the 20th century onwards, the kitchen has been walled in stone on three sides and attached to the parlour, which is made of wood. Generally, the interior of the house contained a soapstone stove. In most dwellings, the kitchen hearth is placed next to the soapstone stove, which is the only fireplace.

The multi-family houses in the Valais form a unique type of dwelling. They are usually three- or four-storey houses, with the same ground plan repeated on each floor. Above the residential floors, a storage room is often located under the roof.

Multi-storied buildings emerged from houses that were originally one- or two-storeys and were then extended by adding further storeys. This practise was especially common in the 18th century.

FARM BUILDINGS

In the Valais, it is typical to build residential houses and farm buildings separately from each other. In the villages, the dwellings are usually concentrated around a village centre, while the farm buildings are located in the spaces in between the houses or are grouped together at the entrance to the village. The landscape of the Val d'Hérens is characterised by numerous barns, granaries and warehouses scattered across the meadows.

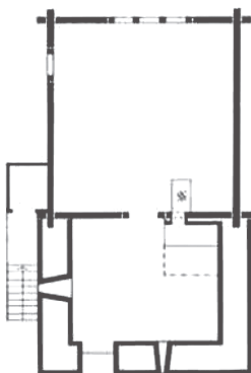
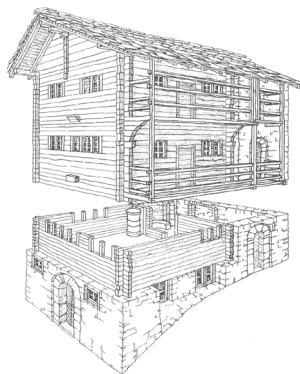
Three types of farm buildings are common in the Val d'Hérens: stable barns, grain barns and granaries. Stable barns provide shelter for animals and store hay supplies, grain barns are used for harvesting and storing grain, and granaries, as the name suggests, offers additional storage space for agricultural equipment, harvested crops and personal belongings such as clothes or documents.

The smaller farm buildings exhibit outward similarities with the neighbouring dwellings. They are constructed almost exclusively of timber in block construction. This loose construction method allows air to pass through the building, which is advantageous for storing hay or grain. In addition, this method of using round logs or lightly

*Two-room deep multi-family home, La
Fauchère, Val d'Hérens, 1543*

*Residential house with two flats per floor,
Les Haudères, Val d'Hérens, 1765*

*Typical floor plan of a two-room deep
residential house*



hewn logs gives the buildings their rustic charm.

The farm buildings have an almost cubic form. These protect and house animals and grain in a single room on one or at most two floors. At first glance, stable barns are hardly distinguishable from the grain barns or granaries. However, a closer look reveals small differences between these forms of traditional local craftsmanship.

STABLE BARNs

There are a large number of stable barns scattered in the meadows above the slopes. Because of the number of barns and the maintenance they require, the construction and furnishings are kept pragmatic and simple. The buildings were not decorated with ornaments, unlike some of the dwellings.

Barns are constructed from stone and wood, which complement each other under a gabled roof made of slate or wooden boards. Like the residential buildings in the village centre, these buildings also have a ridge oriented perpendicular to the slope.

The base of the stone retaining walls is dug into the slope on the uphill side and contains a small door that opens onto the downhill side. The wooden building that sits atop the base is built with the loose block construction method and made of round tree trunks or lightly hewn trunks, which allows air to pass through unhindered.

Barns function to protect animals and store the hay supplies. This function saves the farmers from having to transport the animals to the village. Instead, the cattle wander from one stable barn to another in search of hay. A barn has two floors, each of which serves its own purpose. The lower floor of the barn is relatively low and usually does not have windows. This floor is intended for the animals. Along the extended axis from the front door to the back of the barn is a central aisle. Space for five to six cows is available on both sides of the aisle. They stand with their heads towards the wooden feeding trough, which has several holes for tying up the animals and runs along the side walls. Hay is stored on the upper floor, above the stable room. Due to the mountain slope, the hay can be carried in directly on the hillside via an opening.

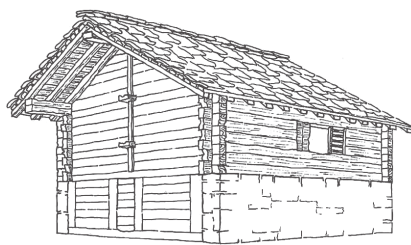
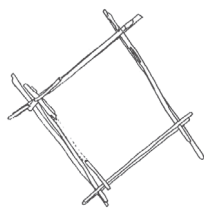
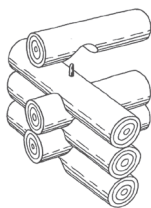


Farmhouses are scattered between residential houses in Eison, Val d'Hérens, photograph taken around 1950

Farmhouses are made from lightly hewn tree trunks

The alternating, perpendicular stacking of timber beams gives the farmhouses their square form

Typical two-storey stable barn



GRAIN BARNS

Like the other farm buildings, the grain barns are cube-shaped in form. The barn needs a flat surface and must be raised from the ground. Typically, the main structure stands on supports, and where supports are uncommon, it stands on stones or low walls. In addition, the façade generally contains one or two openings, located centrally or laterally on the eave side along the axis of the threshing floor.

Some grain barns are supported by substructures built of stone. The substructure is completed by a wooden frame made of squared timber. Four to twelve supports are placed on top of it. The round stone slabs sit on top of the supports, which give the supports the appearance of mushrooms and keeps mice and soil moisture away from the crop. In addition, the main block construction stands on top of the stone slab supports. Squared logs interlock in the corners of the building. Usually, the logs are not hewn perfectly squarely. Like the other barns, grain barns also have a gable roof made of slate slabs or wooden boards.

If the grain barns are closer to the village, the substructure usually has a cellar or even a stable.

These barns also consist of a single room. Passageways with a wooden framework complete the exterior of the barns, and the various grain products are hung on the horizontal wooden bars to dry.

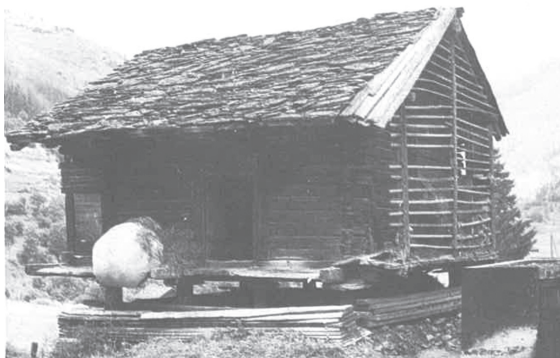
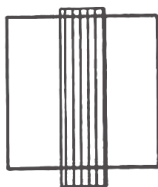
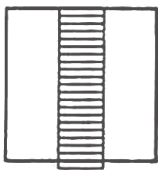
The doors on the eave façade lie along the axis of the threshing floor, which runs perpendicularly in the direction of the ridge. They are usually the same width, and the threshing floor protrudes outwards and serves as an entrance platform. Some of the barns have a second opening on the opposite side of the threshing floor to ensure adequate ventilation.

The threshing floor, the area where the grain is threshed, is the most important part of the barn. The surface must be solid and tight to prevent grain from being lost in the crevices. Since the rest of the floor does not have to support such heavy work, it consists of simpler boards. In the Middle Valais, a threshing floor is typically located in the middle of the building in order to create enough space for the

Threshing floor limited by two wooden boards

Different types of the threshing floor

*Typical grain barn with an exterior threshing floor and
wooden bars to hang and dry sheaves*



sheaves of grain on each side. Variations of this layout exist; in some, the threshing floor lies along one wall, and in others, two threshing floors are placed next to each other. Until the 1960s, farmers still threshed grain by hand. During harvest time, the grain is threshed and then stored in the granaries.

GRANARIES

In the villages of the Val d'Hérens, numerous granaries are placed between the high dwellings. Each family has a granary not far from the house. The most common type of granary has two floors, each with one or two compartments, and the upper floor is reached by an inside ladder or from the outside via a passageway. In the Val d'Hérens, up to four families could share a granary. The doors were placed in pairs on the gable or the eave side. Passageways made of wooden planks provided access to the upper floors and were equipped with a steep staircase.

Granaries are constructed with the same materials as the two previous farm buildings and consist of a substructure of solid stone with a wooden superstructure in block construction. Like the grain barn, the granary sits on supports to prevent mice from reaching the supplies. However, the granary's timber façade is of a finer grain than the coarser logs used for the barns. The granary is finished with a roof made of stone or wooden boards.

Behind the carefully hewn timbers and the beautiful doors of the granaries, the harvests are stored. Grain, meat, cheese, and bread are kept in the granaries, as are clothes and documents belonging to the farmers' families. Since the families' living spaces often house several people, they can become cramped, and the families thus require the granary for storage.

Typical two-storey granary

*The superstructure of grain barns and granaries typically
sit on supports with a stone slab*



THE MAIN VILLAGE OF ST-MARTIN

The high-altitude village of St-Martin is located on the southern slope of the Val d'Hérens. Ideally situated on a sunny terrace, the village benefits from the afternoon sun even in the winter months. The sunlight makes harsh environmental conditions, such as wind and precipitation, more bearable.

Most of the villagescapes of the settlements in the Val d'Hérens survived until after the Second World War. St-Martin is a closed settlement with the main road cutting through the middle of the village. Dwellings and farm buildings are arranged along a contour line above and below the main road. The village is characterised by sun-tanned wooden façades. At the southern end of the settlement, a white church tower prominently stands out as a point of contrast.

At first glance, the settlement appears authentic, and the image we see corresponds to what we have read in books. We observe solid substructures with block constructions and gable roofs. However, a second look reveals that most of the farmhouses have already been renovated or rebuilt.

The cellars of the dwellings, which were originally made of stone, are now made of concrete or have been plastered. Since the substructures are used today, it can be assumed that additional materials, such as insulation, have been added to create a more pleasant indoor climate. We notice that the wooden construction of the upper floors has been well preserved. The upper floors all appear to be constructed of pure timber. We are surprised to see that not all residential houses have a stone kitchen compartment. Looking at the roofs, we note that they are almost exclusively made of eternit or roof tiles.

Behind the dwellings lie traditional farm buildings, not all of which have been converted into holiday homes. Only one former barn on a support which has already been converted into a holiday home catches our eyes. Former stable barns, grain barns and granaries are scattered around the village. As expected, the timber buildings stand

*View towards the high altitude village of
St-Martin*

*Residential buildings along the main road
of the village center*

Multi-storey residential building



on a stone base and have a gable roof. Even in these traditionally preserved buildings, which are not far from decay, the slate roofs have been modernised.

The apartment buildings in St-Martin consist of two to three storeys. The block construction results in an almost perfectly square ground plan. Gable roofs with ridges perpendicular to the mountain slope complete these wooden buildings. We did not notice a single building with a flat base. Most of the façades have two small windows with red shutters. On the eave sides, there are balconies or passageways on each floor which span the entire length of the facade. Some of the houses are so close together that the inhabitants can shake hands with their neighbours from their balconies.

Narrow, steep alleys wind between the buildings behind the first row of houses. The space between the buildings appears darkened because they are so close together. Smaller farm buildings can be seen directly behind the residential houses; these buildings have one storey and correspond to the picture we have painted in our heads. We recognise stable barns, which have a three-sided stone substructure with a gable facade made entirely of wood. The grain barns have passageways with bar frames for hanging grain products and a threshing floor outside the eaves-facade. Granaries are also distributed behind the dwellings.

In general, the farm buildings have a very rustic appearance, as their roundwood block construction and their age sometimes result in crooked walls. The openings, mostly small doors, are located on the gable ends of the stable barns and granaries, while the grain barns have eaves-side doors that lead to the threshing floor.

The substructure of the dwellings along the street have been converted into publicly accessible businesses, such as bars and real estate agencies. As the dwellings do not have a stone kitchen section, the spatial organization inside is less clear. However, we assume that the houses in this village follow the traditional internal arrangement, with the parlour facing the valley and the kitchen

Renovated stable barn

Two stable barns with crooked walls

Typical grain barn with threshing floor



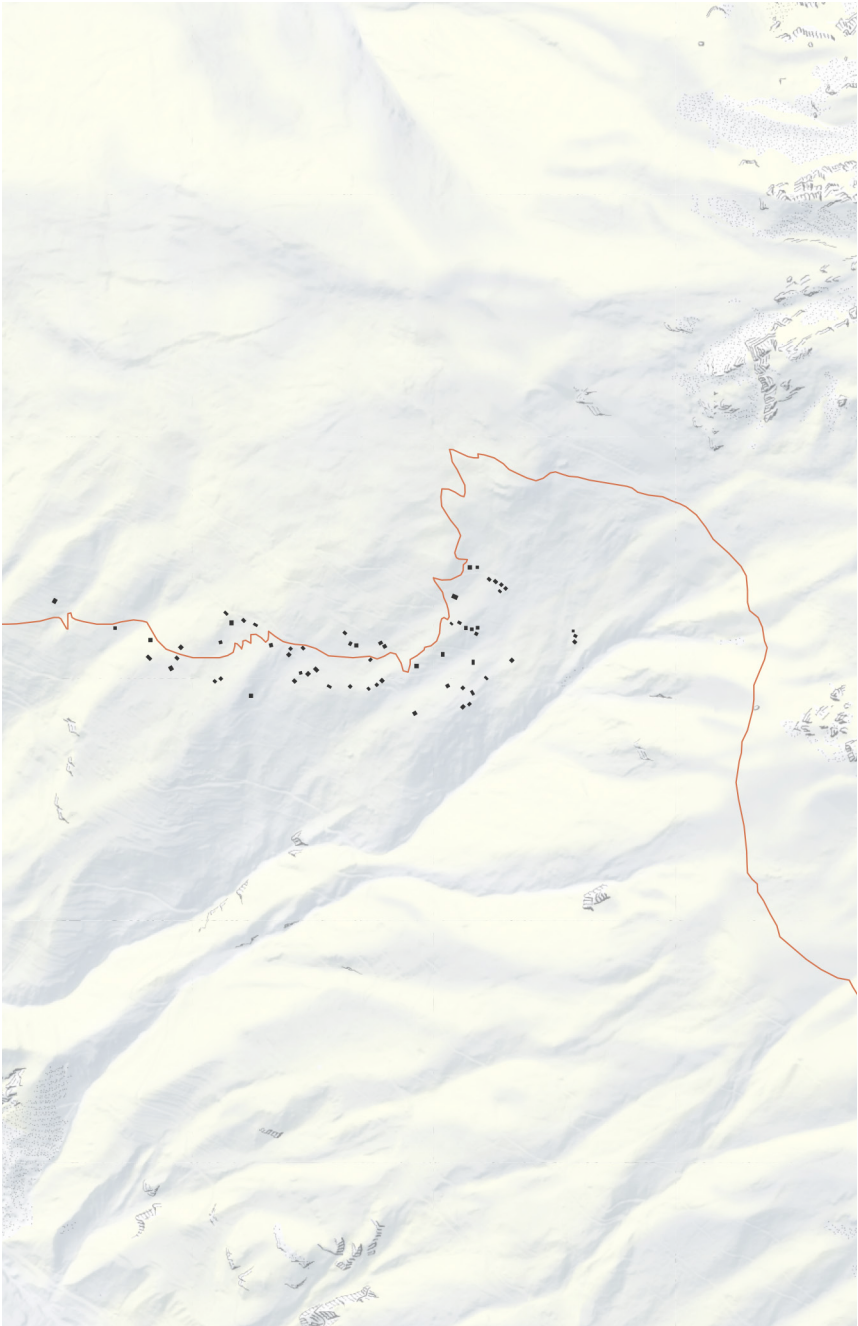
facing the mountainside.

The internal layout of the farm buildings is also unclear. It can be assumed that none of their functions corresponds to their original ones, except for granaries. Since the buildings have no window openings, they are probably used for storage. Some of the farm buildings have already been converted into modern dwellings.

Along the main road of St-Martin, other buildings, such as inns, restaurants, a church, a tourist centre and a modern primary school, complement the traditional alpine farmhouses to complete the settlement.

View over the main village of St-Martin





At the southern exit of the village of St-Martin, by the white-plastered church, a hiking trail branches off. It passes right under the nose of the holiday flats. At first, we wonder if the path leads into their garden, but the yellow-marked path leads past the houses over terraced grassy slopes above St-Martin.

It is a glorious autumn day. We stand above the village and look out over the roofs of St-Martin and beyond into the Val d'Hérens, which is adorned with autumn colours. We walk slowly uphill past solitary houses.

We alternate our gaze between the breathtaking view and our feet. We turn our heads to the left and look at the vines around Sion at the bottom of the valley and the imposing mountain range above it. Looking down, we watch our feet for a few steps. We turn our heads to the right. First, we slightly squint our eyes and smile because the sun is shining directly into our faces. After our eyes have adjusted to the blinding sun, we look directly at glaciers and snow-covered 4000-metre peaks.

Little bells ring out in the otherwise still air. This time the view gives way to the front. We walk towards fenced sheep. White and dark brown dots spread out on the steep grassy slope. Like a school of fish, the curious sheep swarm towards us to eat from the grasses in our hands. The sheep are probably on their seasonal sojourn in the mayen before spending the winter in the village.

MAYENS

After the short, cold winter months, life and work move up the mountain to the *mayen*. The word *mayen* derives from the month of May, the time in spring when people move there. It also refers to the buildings that lie between the villages and the alp.

In central Valais, including the Val d'Hérens, *mayens* are common because of the great distances between the villages and the Alps. Some farming families own several *mayens* at different altitudes. Depending on the state of the vegetation, they move from one to the other. *Mayens* are also scattered on the slopes of the Val d'Hérens. These are groups of houses consisting of small dwellings, grain barns and granaries and look like small villages.

Timber constructions with a gable roof are also typical on the *mayens*, except where structures are built against a slope or around a fireplace. In these instances, natural stones are used. These buildings are partly still intact, elsewhere decaying.

In the Val d'Hérens, the *mayens* contain separate residential and farm buildings, much like the main villages.

The dwellings on the *mayens* usually consist of several storeys, with a stable or cellar in the basement. The kitchen faces the mountainside, while the parlour with its stone stove overlooks the valley. The attic, which is reached via a side passageway, serves as a storage area.

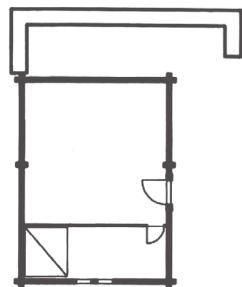
Originally, the barns were given more importance than the rooms built for residents. In the settlements that were only inhabited temporarily, such as those on the *mayens* or the alpine pastures, one did not even need a bedroom. Instead, people rested in the fragrant hay above the barn. However, the fireplace required special protection. In the simplest case, an extension to the stable barn or a separate structure for fire is sufficient.

The buildings of the *mayens* include the barn with the fireplace and a space for sleeping under one roof. In the *mayens*, which are far

Residential house in a mayen settlement

Typical floor plan of a mayen residential house in block construction with a stone wall dug into the slope

Mayen settlement between the main village and the alp pasture



away from the villages, there are also actual dwellings. Traditionally, part of the family lived there to care for the animals and harvest the hay.

In the second half of the 20th century, motor vehicles came into use in the mountain valleys. These vehicles simplified the transport of hay to the village, and thus the *mayen* buildings became superfluous.

ST-MARTIN MAYEN BUILDINGS

Several individual houses are located nearby the sheep enclosure we encountered. Between St-Martin and the edge of the forest, we passed several *mayen* hamlets. The *mayens* consist of traditional, renovated, mixed and new buildings. The residential buildings have been extended and renovated to make them habitable year-round. Scattered over the pasture, are small farm buildings in their original state.

Despite the renovations, the basic structure of the buildings remains intact. Traditionally, the timber structures stand on a stone foundation and have a gable roof with the ridge oriented perpendicular to the slope. Many foundations have been plastered in white. The wooden superstructures have remained unchanged, and the roofs are either made of eternit or tiles.

The farm buildings, which are spread across the field, are constructed of timber and set on a stone base. These buildings have the original stone slab roof.

As the slope is relatively steep, the base of the buildings is dug into the ground on the uphill side. The buildings are similar in size; they are square with one or two storeys. None of them has passageways or external staircases, as in the village. Some of the houses have been extended laterally, and the roof area on that side has been lengthened as a result of the conversions. The farm buildings seem to be smaller in comparison to the extended dwellings.

*Mayen settlement with a group of old
and new farm buildings*

*Traditional stable barn in its almost
original state*

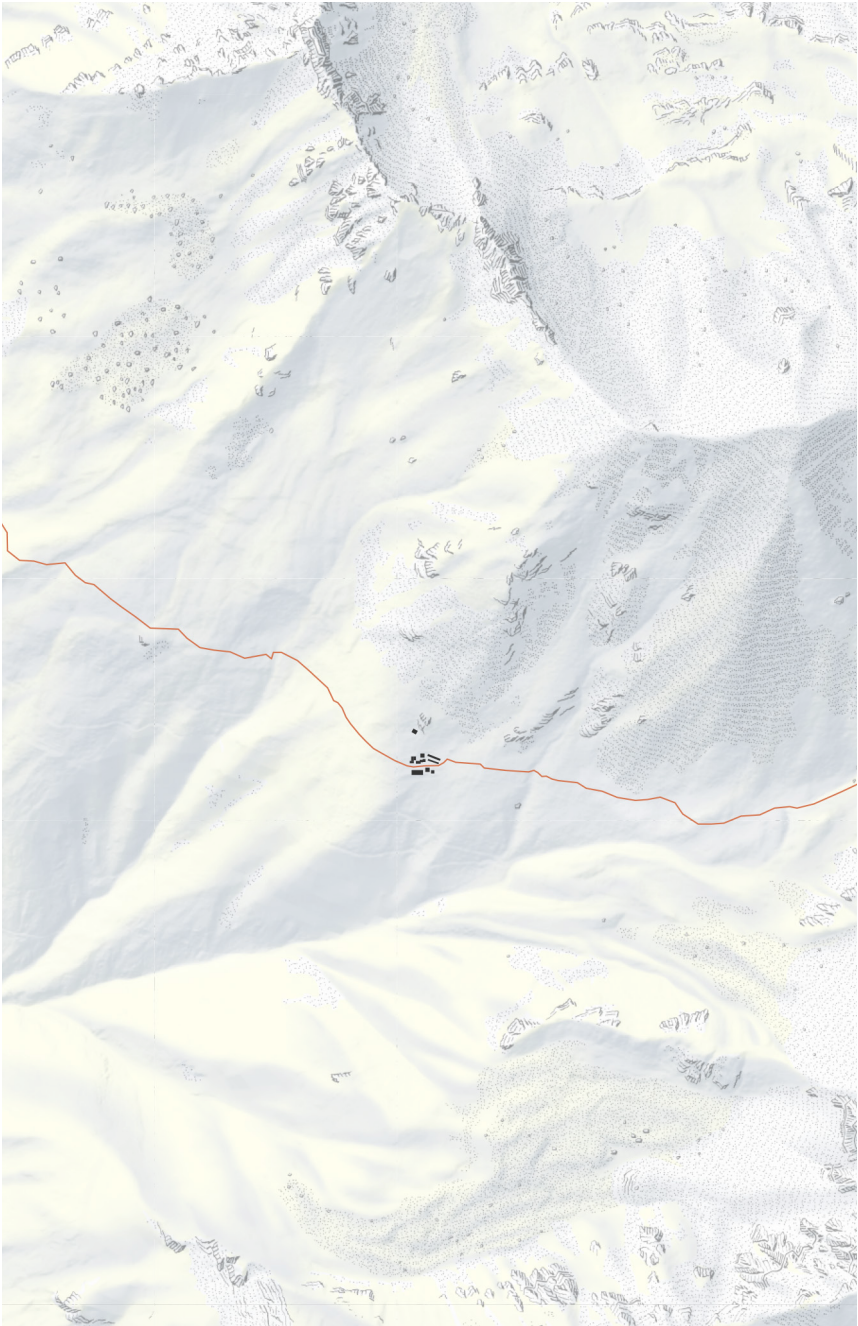


The interior arrangement of the buildings is unclear. However, it is evident that the houses are composed of several storeys. Since they belong to families, it is likely that the parlour and kitchen are on the middle floor, above the cellar. The bedrooms are probably located under the roof, and the staircases are placed inside these dwellings. In addition, the farm buildings consist of a single room.

With the conversions, the focus of the buildings has changed. In the past, more emphasis was placed on the stable barns and grain barns, but today the dwellings are more developed and used more frequently.

*Mayen settlement below the forest with different residential
and farm buildings as well as an animal enclosure*





After taking a short break with the sheep, we continue towards the alpine pastures. Behind the last mayen, the forest begins. Orange and brown needles cover the path.

Around us is a dense larch forest. Every now and then, we can see the snow-covered mountains through the needles. We watch our feet as they work. We occasionally look ahead, hoping to see a clearing.

The higher we climb, the more yellow the larches become. Suddenly, as if we had crossed an invisible border, the forest stops, and we are above the treeline. With narrowed eyes, we recognise a group of houses in front of us, which we reach in a short time. The houses, however, belong to another alp.

Now we traverse the mountain slope to the Alpage de l'A Vieille. Initially, the path leads between alpine roses and small bushes. The further we go, the sparser the vegetation. On the left, brown grassy slopes are mixed with loose stone blocks. On the right are the bright yellow and green larches of the forest.

ALPINE HUTS

Above the forests and the *mayens* are the alpine pastures. On the mountainsides, the animals graze on herbs and grasses up to a height of 2500m above sea level, where the rock of the alpine region begins. In the second half of June comes the important day of the alpine procession, when the farmers hike from the *mayens* to the alpine region. They remain until the second half of September when the alpine departure takes place and the farmers return to their *mayens* for fall and then to the main village for winter.

On the vast alps of the Val d'Hérens, where the herds constantly roam and follow the growth of the grass, farmers must often work in several locations. Just as one family can own several *mayens*, farming families can own various alpine pastures at different altitudes, known as a stafel. Farmers choose the locations of their alpine pastures based on the availability of drinking water. Alpine farmers are skilled at navigating the terrain and seeking out favourable conditions even in impassable terrain.

The farm buildings of the alpine pastures are usually made of stone because wood is scarce at these altitudes. The gable roofs are covered with slate or wooden shingles, and their ridges are usually perpendicular to the slope.

The buildings and facilities have been adapted to the terrain and are built into the mountain slope. At these altitudes, this feature is more important than at lower altitudes because there are no forests to protect against natural hazards such as avalanches.

Like the main village and the *mayens* of the lower altitudes, the alpine pasture consists of a small group of houses and forms its own economic unit. The topography of the area governs the action radius of the herd, while the growth of the vegetation determines the number of usable pastures. In addition, each alp has a simple cheese dairy to spare the cows unnecessary daily marches, which negatively affect their milk production. There is a cheese storage for storing cheeses, Ziger and butter. This alpine economy has resulted

Alpine huts in the vast landscape above the tree line

Back in the main village after the alpine descent. White decorations mark the cow who gave the most milk of the season

Various alpine huts in their specific materials in wood or stone



in a considerable variety of buildings scattered across the pasture. In general, four categories of buildings are present: stable barns, a senn hut, a cheese dairy, a stable barn and a residence for the alpine herdsman. These structures can be united under one roof, combined in various ways or separated. Additionally, in some areas, at least one of these structures may be absent.

STABLE BARN AND PENS

An alp pasture can consist of up to ten to twenty single-room stable barns. These barns are paved or covered with wooden planks and serve as a resting place for the cows. Dry stone walls surround the stable barns on three sides, and a door opens in the open, wooden gable façade. On the side of the stables facing the mountain, some of the walls are reinforced to protect them from the pressure of the snow.

In the Val d'Hérens, 20th-century stable barns are mixed with the older ones. Until approximately 1920, the new buildings followed traditional architectural patterns and used locally available building materials. This traditional architecture has been maintained or even partially rebuilt in the same style.

In some areas, no stable barns were built on the Alps before the 20th century. The cows were driven into pens made of stone walls for milking. The pen usually takes the form of a long rectangle that lies on a natural or artificial flat, and the cheese dairy is located at one end of the pen. The cows may also stay at the pen overnight. The stable barns may be situated in a triangular or circular arrangement around a pen through which cows enter the stalls. During modernisation, the pens were replaced by large, brick stable barns, which decreased the number of stafel changes.

CHEESE DAIRY, STORAGE AND SENN HUTS

The cheese dairy, a building dedicated to the production of milk products, is located in the centre of the hamlet and is distinguished from the other buildings by its predominantly stone construction.

In contrast to the granaries in the village and on the *mayens*,

*Stable barns with slate roofs and
three-sided stone walls with a open gabel
facade in wood*

*Various alpine huts arranged around a
triangular pen*



cheese storage, made of a stone masonry cellar with a timber storage construction above, can be found on the alpine hamlets. In size and shape, they are similar to those at lower altitudes.

The cellar on the ground floor stores the cheese until the alpine departure. The Ziger cheese and butter are stored on the upper floor, as are other provisions such as bread. At the end of the season, the milking and cheese equipment is stored in the storage. The mountain slope provides access to the upper floor.

On lower stafel, hamlets may have small one-room senn huts, that function like a cheese dairy. Similarly to the latter, the senn huts are made of dry stone walls with a gable roof.

Various measures have been taken to support the ridge, including using part of the facade without closing off the gable field. Most frequently, square timber beams are stacked on top of each other in the form of a pyramid. While most senn huts are constructed with dry stone, some are also made of timber. The fireplace is located in a corner of the hut by the entrance facing the valley, and smoke can escape through the open gable end.

ALPAGE L'A VIEILLE

At 2400m, the Alpage de l'A Vieille forms the uppermost area of the commune of St-Martin. Today, the farm contains a mixture of old and new buildings. The farm was maintained until the 1990s. From then on, renovations, extensions and new buildings were added.

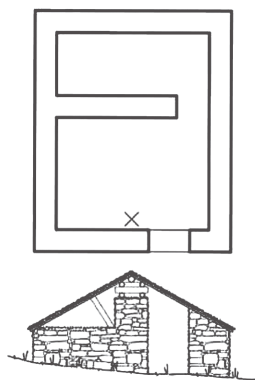
Photographs taken around 1950 show traditional buildings, such as stable barns, senn huts, the cheese dairy and the storage. In 1994, the spacious, modern stable barn was constructed, and the cheese dairy was extended. One after another, the farm buildings were renovated and converted. In the 21st century, a chapel and a buvette were added to the farm.

Approaching from the valley, we first reach the cheese dairy and the stable barn. Behind the stable is the newly opened buvette, while other small farm buildings lie on the slope behind the cheese dairy.

*Typical floor plan of a senn hut with an open gable
façade*

*Old photograph of the alpage l'a Vieille with the cheese
dairy on the left side of the image and stable barns
arranged around a pen*

The alpage l'a Vieille in 2021



Between the stable barn and the smaller farm buildings, we notice an area that we interpret as a former pen.

Since the farm has been renovated throughout the previous decades, the buildings exhibit different construction methods and are made of various materials. The predominant materials remain stone and wood, complemented by concrete and metal roofs.

Old photographs reveal a mixture of wooden and stone buildings. The cheese dairy was a three-sided stone building with a wooden gable façade. Meanwhile, the stable barn was divided into several smaller buildings, which used the same materials construction method as the cheese dairy. These buildings were used for overnight accommodation, and during the day, the animals grazed on the pastures or were milked in the pen.

Today we recognise similar buildings, though they are larger and more upright. It is evident that the walls were mortared during the renovations. There are, however, certain exceptions, where we can see the original construction of stones lying on top of each other without mortar. On the more modern buildings, the roofs vary between wooden boards and corrugated metal sheets.

The modern barn consists of mortared stone walls and a gable roof of corrugated metal sheets. The wall built into the mountain slope was cast in concrete to reinforce it.

The buildings lie in rows, and in the second row, they are constructed of pure stone. Most of the buildings have a gable roof, and the roofs of the houses in the back rows are pitched parallel to the slope. We did not observe this particular roof construction on the farmhouses at lower altitudes and suspect that this construction was formed in response to the exposed location, to better protect themselves in case of a landslide or avalanche.

Many farm buildings form the courtyard of L'A Vieille. We recognise an elongated triangular pen. Huts are arranged in an arc around the pen, and the stable lies at the end on the side facing the valley. The stable is an elongated rectangular building with two doors on each

New construction in the traditional style

Alpine huts are embedded in the terrain

*Large stable barn of the 20th century that
replaced several individual barns*



gable façade. As each building is dug relatively deeply into the slope, only the roofs are visible on the uphill side.

The huts have a ground plan that is almost perfectly square. The wooden gable façades contain one or two doors, either in the middle or on the side of the structure. To our knowledge, all of the buildings in the courtyard are single-storied.

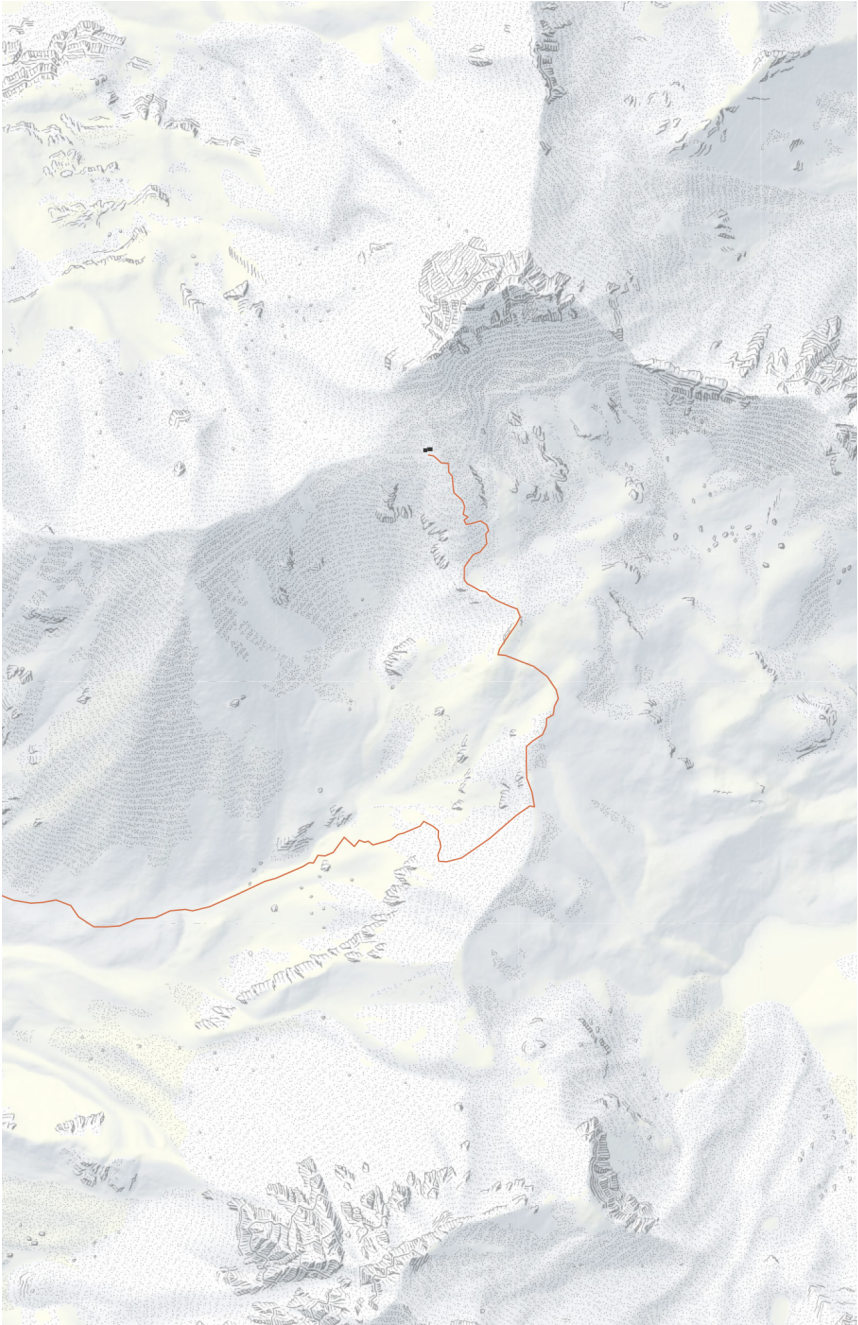
The Alpage consists of a group of houses, but it is considerably larger than the *mayens*. The pen forms the heart of the farm, around which the buildings are arranged.

It seems that in the 1950s, most of the work, such as milking, was done in the open air, and the buildings were used at night. The cheese was likely made in the cheese dairy. When the new barn was built in the 1990s, the pen was renovated and became a place for guests to stay.

The cheese dairy continues to operate and consists of a single room. Today, cheese is made on the alp in the summer and in the dairy in St-Martin in the winter. We know little about the interior spaces in general. Concerning the stable barn, depending on how many farmers own the barn, it could consist of one or two long rooms, though the two entrance doors suggest it contains two separate compartments. It seems that, apart from the buvette, the rest of the buildings serve as one-room holiday accommodations.

The Alpage blends in with its surrounding environment in terms of material and form





Leaving the Alpage de l'A Vieille behind us, we make our way to the Cabane des Becs de Bosson. It feels as if the brown trampled path that meandered through grassy areas is far behind us. A steep path leads through loose scree that resembles the colour of coal. The path becomes less and less clear, and we take it step by step.

Hopefully, with narrowed eyes, we look for a hut in the barren landscape, as if searching for Waldo with his white and red striped sweater in a dense crowd.

An hour later, the hut stands before us as if it suddenly materialized. After a well-deserved break, we sit down on a bench until our breathing and pulse return to normal. We are alone for a short moment until two bikers sit down on another bench.

Later, a hiker comes and greets us cheerfully. He is the hut warden. The hut is closed for the off-season, but he has returned because his black hut cat is missing (fortunately, he found the cat a few weeks later). It really is a stunning location for a mountain hut.

MOUNTAIN HUTS

While the farmhouses of the Val d'Hérens are associated with the economy and traditions of the valley, the typology of the mountain huts are not traditionally linked to a specific valley but are influenced more by the mountains themselves and the extreme climate at these altitudes.

At first glance, a mountain hut does not seem to have much in common with the traditional farmhouses in Valais. Solitary huts are built high in the open alpine region without farm animals or agriculture for the shelter and pleasure of mountaineers. Farmhouses and mountain huts differ in their functions, though they have some elements in common, especially the landscape in which they were built. Both types of buildings offer shelter in a locale where the climate can become very harsh. The history of the huts reveals a vernacular approach to their development, using local materials from the immediate surroundings and simple construction methods. The huts thus bear witness to an intimate relationship with the landscape.

It is worth considering the past to better understand mountain hut construction. Their history shows how material, design and construction solutions were developed that have stood the test of time. Mountain huts play an important role in the history of alpinism in the Swiss Alps.

HISTORY

Since the 18th century, the Alps have represented a scientific challenge. With the spirit of the Enlightenment, people overcame their fears of the unknown and ventured into the mountains. Early refuges high in the mountains originally functioned as a starting point for first ascents or for exploring nature. At this time, the idea of the mountain hut had not yet been conceived, and the shelters were visited by those interested in the natural sciences and painting.

After the first ascent of Mont Blanc in 1786 by the Frenchmen Jacques Balmat and Michel-Gabriel Paccard, bourgeois society

The "Hotel" of Charles Blair on the Montenvers, 1779

*The "Temple de la Nature" of Marc-Théodore Bourrit on
the Montenvers, 1795*



developed the modern concept of tourism in the 19th century, awakening the desire for discovery and adventure in a still unexplored environment.

This desire coincided with the beginning of alpinism: the ability to survive in extreme places, the thrill of discovery and the race to the summit. Originally, alpinism was reserved for the nobility as well as the upper-middle classes, and the English were the first to make the Alps their playground. Exploration and alpinism initially developed side by side. The more information people discovered about the mountains, the greater their attraction to climb these giants. In 1853, the first mountain hut as we know it today was constructed. The Refuge des Grands Mulets sits on Mont Blanc at an altitude of 3050m. This mountain hut became the model for building in the high mountains for the next thirty years.

A decade later, in 1863, the founding of the Swiss Alpine Club (SAC) marked a turning point in the development of the alpine landscape. The organisation's task was to build and maintain mountain huts. In the same year, the first mountain hut in Switzerland was built, the Grünhornhütte, in Glarus. Since the inauguration of the SAC, the number of huts rapidly increased; at the beginning of the 20th century, the SAC owned 64 huts, while today, the organisation owns 360 huts.

From the 20th century onwards, a change in the visitors became evident. Whereas alpinism had previously been reserved for a privileged few, an increasingly diverse public began travelling in the Alps, thus democratising their development. Due to the public's many needs, the demand for comfort increased, leading to the construction of mountain inns. These multi-storey inns were larger than the simple, primitive mountain hut.

A second turning point in the history of hut building occurred with the rise of the leisure society after the end of the Second World War. The use of the helicopter also greatly changed the development of the huts, as transporting materials by air rapidly shortened construction times and made new construction solutions possible.

The development of more comfortable lodgings for an

*Photograph of the Refuge des Grands
Mulets on Mont Blanc, 1853*

The Grünhorn hut, 1863



increasingly urban public reached its peak at the end of the 20th century. The Alps are now consumed like any other material good, and consequently, the public's sense of responsibility towards the environment diminished. In response, the International Commission for the Protection of the Alps (Cipra) was founded in 1991 to changing public attitudes towards environmental neglect and spatial development in the Alps. Inspired by this new environmental awareness, the SAC determined not to build additional new huts but to repair, rebuild, reconstruct or extend the existing ones.

To date, a network of huts and access routes spans the Alps. Each mountain has a system of interconnected paths that link the huts with the peaks and the valleys.

MATERIALS

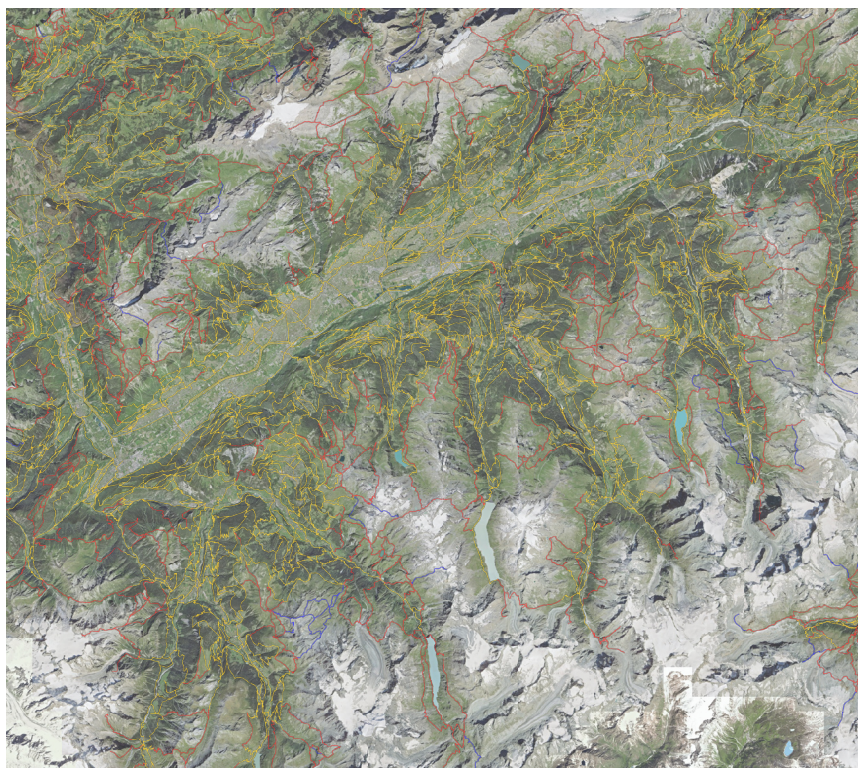
From the development of the first huts in the 18th century until the end of the 20th century, the traditional hut, with its construction of stone and a gable roof, persisted. Today, sculptural buildings with a shiny metal exterior are more common.

Building in the Alps initially proved challenging. At the end of the 19th century, the first mountain huts collapsed due to the harsh climate. Until this time, the huts were built to exploit natural features such as rock overhangs or grotto-like indentations. Thus, the hut's fourth wall was constructed from the natural walls of the landscape. This construction method, however, suffered from technical problems, such as dampness in the interior, and free-standing huts were therefore built from 1900 onwards.

Stone, which could be found on site, was initially used to construct the shelters. Since stone could be found on site, the builders could access materials without relying on long transport routes. When the first huts were built, there were no means available to use any other material.

However, timber became the predominant building material when free-standing huts became popular at the turn of the 20th century. This material solved several problems associated with stone

Swiss network of hiking trails in Valais



construction: as wood can absorb moisture, the buildings were less damp, the interior could be warmed quickly, and the air remained dry. Since the mountain huts were situated high above the treeline, the individual elements were made by carpenters in the valley, carried up by volunteers and assembled on site. Examples include the Damma and Gauli huts.

Until the First World War, wooden huts dominated, but this trend did not last. With the founding of the Heimatschutz, a Swiss Non-Profit-Organisation that aims to preserve and develop the construction culture, in 1905, builders quickly returned to stone. The rather conservative organisation recommended the construction of stone huts with gable roofs made of eternit or sheet metal, the model for the traditional alpine huts.

During the post-war years, builders experimented with construction materials and the shape of the mountain huts. Furthermore, with the use of the helicopter after the Second World War, the builders were no longer dependent on people and mules as means of transport. As such, builders had access to a greater choice of materials and construction methods.

Building with wood, which is generally not found in high mountain regions, has many advantages, including prefabrication in the lowlands and quick assembly on site. Depending on the altitude, short assembly times are necessary to finish the shell before the onset of certain climatic conditions (e.g., snowfall, wind pressure, rain).

The use of lightweight building materials that can be transported by helicopter and assembled on site has led to the widespread use of prefabricated timber structures. These structures rely on a sandwich construction with a strong layer of thermal insulation. This change has transformed the hut into an imported building.

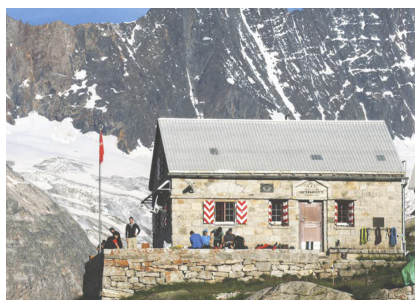
Extensions and replacements are also done with timber due to its high elasticity. This quality has become more important in recent years due to permafrost thawing and the associated ground subsidence. Furthermore, combining wood with sheet metal façades has optimised weather resistance and minimised maintenance

The Damma hut was originally built in 1915. The timber construction still stands today with a new cladding

The Gauli hut was originally built in a block construction in 1895 , which was later covered with wood shingles

Caban de Tracuit is a modern mountain hut with a metal cladding and large window openings

The stone construction of the Lauteraar hut, which was built in 1931, is still intact



costs. In addition, insulating the building envelope (i.e., the floors, walls and roofs) has helped to improve the comfort of the climate inside the hut.

FORM

The first shelters did not follow any sort of architectural concept. Until the beginning of the 20th century, the huts resembled the primitive shelters of shepherds or mountain pioneers. The structures were built as “do-it-yourself” projects by volunteer surveyors, engineers or lawyers. The results were rather modest and always very similar; technical knowledge of construction was a practical necessity and not a symbolic form of expression.

The first shelters on Mont Blanc took advantage of natural conditions and leaned against the rocks, with the roof sloping towards the valley. When hugging the mountain, the structures were better protected from wind, rockfall, avalanches and storms. However, the huts showed structural problems and often collapsed quickly due to the harsh climate of the Alps. Therefore, in the 20th century, the huts were detached from the rock faces.

Removing the huts from the rock changed their relationship with the landscape. Until that point, the huts were situated in the shadow of the mountain, offering shelter and protection with the help of the mountain itself. Now, the structures sit freely throughout the landscape and must provide protection solely through their shape and construction. The solitary huts thus mark a clear contrast to the alpine huts at lower altitudes, which partly burrow into the mountain for protection.

Furthermore, the free-standing mountain huts presented a new challenge. Specifically, they had to be located in an area safe from natural hazards and with access to water. In addition, the huts had to offer access to areas ideal for mountaineering. Initially, favourable locations were sought according to the principle of trial and error. If a hut was destroyed due to natural disasters, it was rebuilt on a new site until the safest location was found.

*The Refuge des Grand Mulets on the
Mont Blanc leaning against a rock, 1853*

*A historic photograph of the freestanding
Oberaletsch hut, 1890*



When the SAC was founded in the 19th century, the club was concerned with the construction of new huts and established clear and simple rules for best building practises. Huts were to be built far away from rock faces to avoid rock collapses. Moreover, the mountain huts had to consist of four walls, permitting a compact volume and minimising heat loss. The rectangular shape also facilitated additions and extensions. In addition, the building was to be covered by a gable roof.

The Heimatschutz also strongly influenced the design and construction of the huts. The organisation's aim was to preserve and enhance Swiss national identity. By recommending conceptual elements, such as a stone building with a gable roof, the Heimatschutz sought to approximate the alpine huts of the lower altitudes.

For the next sixty years, time seemed to stand still in mountain hut construction. Even the Almagellerhütte, built in 1984, conforms to the specifications of the Heimatschutz. The huts seemed to reside outside of architectural progress. The Heimatschutz inhibited the further conceptual development of hut construction. However, the notable Swiss architect Jakob Eschenmoser, from St. Gallen, innovatively elaborated on hut construction using the guidelines of the Heimatschutz. Eschenmoser developed his own style of hut construction and became known for his organic buildings and space-saving, polygonal ground plans, becoming the first to break from the traditional style.

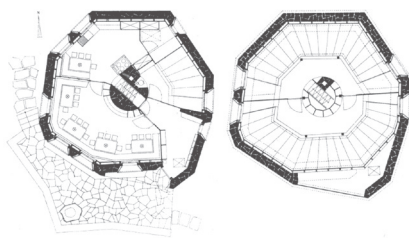
The simple geometry of mountain huts remained predominant until the 1950s. Since the start of the 21st century, however, the appearance and construction of the mountain huts have changed considerably. Modern huts appear as diamonds that stand out from the landscape. These new buildings represent a new approach to the landscape. Extensions to existing buildings also form contrasting and independent structures.

Most modern buildings and extensions prominently feature large window fronts. These windows create new visual references. Nature is no longer excluded but celebrated. The hut itself becomes a destination and not merely a place of refuge and passage. In short,

The Krönten hut, built in 1921, is considered a typical SAC hut, made of stone from the nearby surroundings

The Dom hut by Jakob Eschenmoser, 1957

The Monterosa hut shines like a diamond in the snow-covered landscape



the hut becomes an experience.

Inspired by the international architectural scene of the 1980s, the most modern huts resemble figurative abstractions. The prism-like structures stand out against their surroundings, clearly contrasting with the stone and wooden huts of the 19th century. Both the free-standing huts and the modern extensions break away from tradition in conceptual and materialistic terms. Because of these changes, the newer buildings are more reminiscent of the city than of the mountains themselves.

SPATIAL ORDER

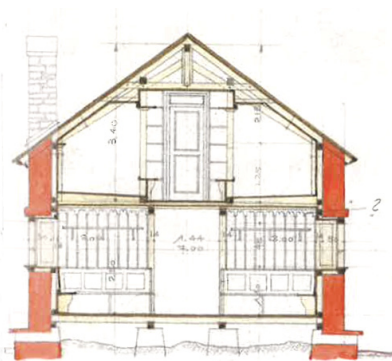
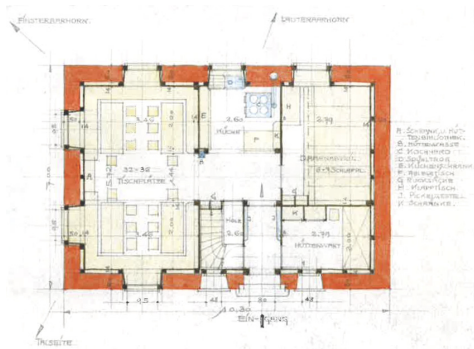
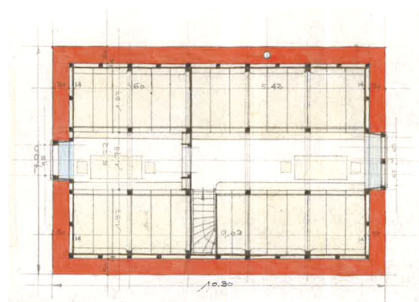
When the practise of alpinism began, the shelters were modestly equipped. The activities of cooking, eating and sleeping took place in one room, which contained a fireplace, a table and beds made of straw or hay. The plan and interior of the Gaulti hut in the Bernese Oberland display the simplicity of the early huts used for shelter.

As the 20th century progressed and the clientele changed, the mountain huts became more elaborate. Newer huts included a large bedroom, a dining room and a basic kitchen. A small, separate outhouse was also available. The rooms were rectangular in shape and aligned with one another. If additional rooms were needed to accommodate the hut warden who guarded and maintained the hut during the season, an extension could simply be added.

With the steadily growing needs of the diverse clientele, the spatial arrangement of the mountain huts became more complex starting in the 1950s. Huts were constructed with irregular floor plan geometries and included several storeys. Jakob Eschenmoser's Domhütte, with its polygonal floor plan distributed over two storeys, illustrates this design, in which the floors separate the upstairs sleeping areas from the downstairs common area.

Today, the huts are constructed using the most modern and sustainable house technologies, although these technologies are outside the scope of this work. This paper does, however, demonstrate the increasing demands on previously primitive shelters, which has

Floor plan of the upstairs sleeping area, floor plan of the downstairs dining room area and a section of the Lauteraar hut



led to complex building projects in the alpine region. For instance, huts now offer more privacy, with shared rooms instead of a mass dormitory, hot water and sometimes showers and electricity.

While the hut's basic function – to provide shelter from inclement weather before the summit climb – remains, it is no longer the central focus. Protection is becoming a matter of course.

The growing demand for more comfort has suppressed the huts' original purpose of meeting certain basic needs, such as safety, protection and warmth. To the heroic pioneers of the 19th century, such comfort was hardly imaginable. Facing uncertainty, they sought shelter in the unpredictable Alps. Today, people can take a carefree hike, knowing they can rely on the huts. As such, they are able to concentrate on their own well-being and the view.

CABANE DES BECS DE BOSSON

Two hours after leaving the alpine huts, after a steep climb over scree and stone boulders, we finally spot the Cabane des Becs de Bosson not far from us. For us, the day's goal is reaching the hut itself and not the two rock towers that characterise the double peak of the Becs de Bosson, from which the hut received its name.

The view is breathtaking, offering a 360° panorama from Mont Blanc in France to the Matterhorn in the Valais Alps and the Bernese Alps in the north. The Cabane des Becs de Bosson, at an altitude of 2985m, borders the neighbouring side valley of the Val d'Anniviers. Our path was only one of many that leads to this hut.

There it stands: solitary, on a flat surface not far from the mountain peak, which resides in the background. We sit down on one of the wooden benches scattered throughout the area and observe the hut from a distance.

The hut seems to meet the various standards of the SAC. It stands freely on a flat area of the slope, and the original stone building with its gable roof is rectangular in shape. Behind the hut, we see the outline of the extension. The extension is also rectangular with a

The Cabane des Becs de Bosson appears as a natural boulder from a distance



gable roof and was built using modern construction methods and materials that were likely prefabricated in the valley, transported by helicopter and assembled on site.

The metal cladding, which covers the entire hut, is noticeable. A traditional stone building can be seen under the metal cladding. For the extension, the metal cladding covers a timber construction that sits on a concrete base, which is hidden from our view by a wooden terrace and is only visible from the east.

We look directly at the eave façades of the two rectangular structures with gable roofs. The original building is almost perfectly square with a rectangular extension, which is slightly offset in plan and height. Windows are placed at several heights in the extension, indicating an additional storey and thus explaining the difference in height between the two buildings.

Through research, we know that the Cabane des Becs de Bosson was built in 1997 by a small number of passionate mountain climbers. In 2012, due to its success, the hut was expanded. The metal enclosure overlays the two construction methods, one of solid stone and the other relatively light and wooden, combining the older building with the newer one.

Apart from the stones peeking out from under the metal sheathing, the old building is also recognisable from the outside by its smaller window openings. A small number of almost perfectly square windows with shutters decorate the façades. The extension has a large window front on the ground floor, which spans nearly the entire height of the room and wraps around the corner of the building. On the upper floor, the extension has vertical standing windows that approximate the windows of the original stone building.

One enters the cottage centrally and intuitively heads left into the old building. The reception area and kitchen are combined, and this space used to include the former common and dining room as well. The extension, with its large windows, is furnished with long

Two volumes slightly offset in plan and in height

*A light metal envelope covers the original massive
stone structure and wooden windows*



wooden tables and benches and now serves as a common area and dining room. The upper floors are filled with rooms containing multiple beds.

Natural integration into the wild landscape



SYNTHESIS

Whether farmhouse or mountain hut, what alpine buildings have in common is the landscape. These structures differ in function, but there is much to be learned from each. In the past, the topic of alpine architecture only concerned those who built and used them, such as the farmers and mountaineers. Today they are part of Switzerland's architectural discourse. For mountain hut construction, throughout the country, open and invited competitions are held where architectural offices submit mountain hut designs.

MATERIALS

For centuries, stone and wood have been the predominant materials of the Val d'Hérens, both in the valley and on the mountain. Alpine buildings were constructed of locally sourced materials: wood for the buildings below the tree line and stone for those above it.

Many of the rural houses we encountered on our walk through the village, the *mayens* and the alp are over hundreds of years old. Some of these houses have already been renovated, while others are in need of renovation. In addition, some of the early Swiss mountain huts have survived. The Oberaarjoch hut, built in 1883, was one of the first huts made entirely of wood. Today it functions as a winter room and stands in front of the new hut. The original hut, which is over 100 years old, is still intact and functional due to excellent maintenance.

A timber construction has an average lifespan of up to eighty years. If the house is well maintained, a wooden house can live for over a hundred years. This means that a wooden building can keep up with a solid stone or concrete building, which has an average life of over 100 years. Metal façade cladding, however, has a much shorter lifespan and must be replaced after an average of forty years. A pitched roof also lasts at least twenty years longer than a flat roof. These numbers vary, of course, according to the building material chosen, the quality, the climate of the surroundings and the construction method. Basically, regular maintenance helps to

ensure a long lifespan.

Pragmatic and simple approaches to hut construction were predominant until well into the 20th century. It is still too soon to consider the longevity and sustainability of the most modern huts. However, it is easier to replace parts in the modern structures than, for example, replacing a solid stone wall in an older building.

Stone and wood are durable and sustainable materials. Stone is resistant to weathering and is a natural material that can usually be found not far from an alpine construction site. However, it is heavy and difficult to work with. Nowadays, people no longer have the patience and time costs money. People have turned away from buildings made purely of stone, now making stone foundations to provide a solid base for protecting the light-weight superstructures from the ground moisture.

Wood also has many advantages. It is much lighter than stone and can thus be transported more easily. In addition, the material has a high elasticity, which is becoming increasingly important as it can react to changes in natural conditions. Wood can absorb moisture and ensures a pleasant indoor climate. Furthermore, wooden buildings radiate a homely, cosy feeling.

At the beginning of the 20th century, wooden huts were not very successful because builders lacked knowledge of constructing huts with this material. As this knowledge became more available, a great interest in this natural building material developed. Moreover, in the mountains, where one is constantly exposed to extreme climatic conditions, the ability to build quickly is a necessity. Wooden structures are thus ideal because they can be prefabricated in the valley. If climatic conditions permit, they can be transported by helicopter and assembled on site in a relatively short time.

Similarly, metal has the advantages of prefabrication and transportation via helicopter. In a society that often relies on speed and efficiency, metal is thus a useful complement to wood. Not only is metal light and easy to work with, but it is also weather-resistant and thus requires less maintenance than other materials. In terms of time and cost, metal is ideal, although this material is not naturally

found in alpine areas. As such, a metal structure is immediately conspicuous as a point of contrast with the landscape.

The construction, material, and concept of the Swiss mountain hut have changed greatly since the Second World War. Likewise, the Cabane des Becs de Bosson has undergone significant changes. The farmhouses of the Val d'Hérens, on the other hand, have changed little except for the many conversions of those on the *mayens*. As these structures have become obsolete due to modern machinery, it has become the trend to convert the old *mayens* into holiday homes that suit the individual needs of the owners.

These changes lead to many questions about the state of these rural buildings: must the buildings in need of renovation follow the latest developments? Do the renovations lose part of their identity with the use of new construction materials?

As organic materials found in the same valley, stone and wood create buildings that appear natural in the Alps. Both farmhouses and huts made of stone or wood fit into the landscape in an unpretentious way. In some cases, they blend with their surroundings so effectively that they are hardly recognisable. The use of these materials provides an unobtrusive, respectful way of considering the environment and integrating manmade structures into the landscape.

FORM

When the farmhouses of the Val d'Hérens were built in the Middle Ages, there was no previously constructed local architecture to reference to. Instead, they were built in an intuitive and pragmatic way. These farmhouses were built several centuries before the mountain huts. It is not surprising that the mountain refuges took these rural buildings, especially the alpine huts, as a model for their form and appearance.

Both the alpine hut and the mountain hut are located above the tree line, where the vegetation is sparse, meaning these buildings are exposed to the weather. Initially, both types of buildings were dug into the mountainside or nestled against the rock, which minimises

the surface area exposed to avalanches. When the mountain huts later became freestanding, the alpine buildings had only their outward appearance in common. From the Second World War onwards, the mountain hut became increasingly detached from the traditional image of the alpine hut, while the appearance of the alpine farmhouses has remained the same to this day.

The appearance of the huts and their relationship with the landscape has changed considerably. The original stone buildings blended in with the landscape because they were made of the same material as their immediate surroundings. When timber construction became common, the mountain huts were more recognisable, as most of the buildings were far above the tree line, but it was a local and natural material, and it thus complemented the alpine landscape. After the Second World War, there was a major shift in the choice of materials and the huts' relationship with their surroundings. Their form and architectural concept were foregrounded, indicating a turn away from the natural landscape. Since the beginning of the last century, the appearance and construction of the mountain huts have continued to change. The modern huts appear as boulders that stand out from the landscape. Freestanding buildings become figurative abstractions. Extensions to existing buildings also form contrasting and independent structures. Nestled against existing stone buildings are contrasting extensions made of wood with metal cladding and large window fronts. Construction solutions are emerging that rely more on prefabrication in the valley and less on building in the mountains.

Today, three different types of mountain hut can be found in Switzerland: sculptural buildings that seek a dialogue with the landscape, clear geometric forms that stand out from the natural surroundings, and traditional constructions of stone with gable roofs that imitate the alpine huts.

SPATIAL ORDER

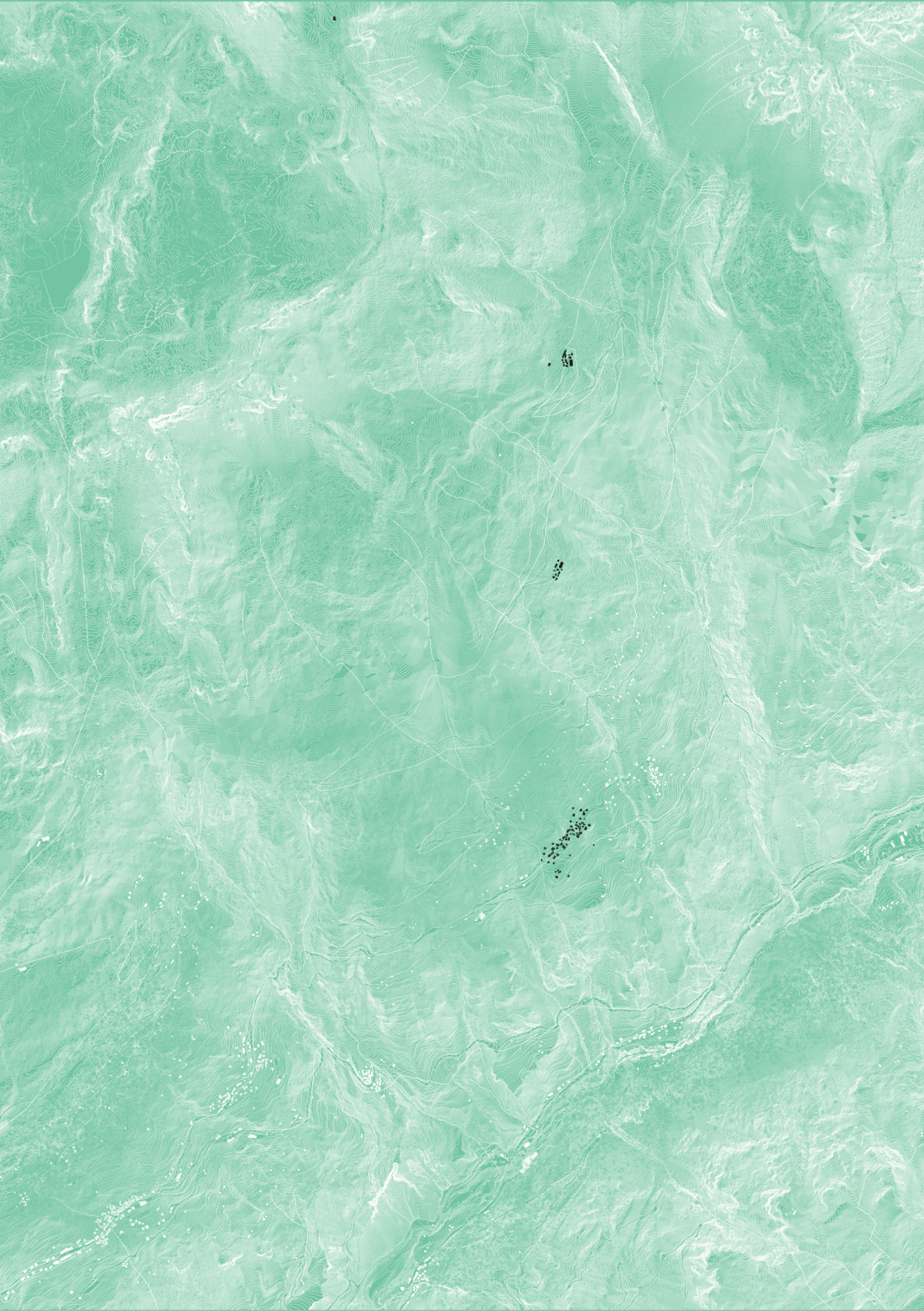
Farmhouses usually consist of several individual buildings divided according to their function. This division differs from the solitary mountain hut, in which various activities occur closely together in the same room. The farm's multi-house construction, with its small single-purpose buildings, makes it possible to adapt the farm to the changing needs of the farmers. Since the buildings are placed a certain distance apart from each other, the risk of a fire destroying all of them is low. In addition, activities that require fire, such as cooking, usually take place in the buildings made of stone. Because the buildings were constructed with materials found on site and usually follow simple construction methods, it is relatively simple to make repairs and build additions or new structures. These advantages have contributed significantly to the preservation of multi-storey construction. However, the farms also have disadvantages that call into question the efficiency of vernacular architecture. As the many buildings require a significant amount of material and frequent maintenance, farmers must invest a great deal of time and money into these structures. Moreover, the central residential house is sometimes located far from livestock and supplies, which poses specific challenges in bad weather and in the winter. The long distances cause a noticeable loss of time, and many farming tasks cannot be done under the protection of a large roof. Given the economic changes of recent times, these disadvantages usually outweigh the advantages that were important centuries ago.

We wrote this work only partly because we are interested in architecture in alpine regions. Above all, we care about the landscape and how it is treated. There should be a balance between nature and architecture. We think that there is much to learn from vernacular building typologies in terms of material, form and spatial order. The traditional architecture is the result of a lengthy development and is worth preserving today. Everywhere we looked, we were impressed by the work of farmers and craftsmen, but the influence of the landscape and the mountains also shined through.

For us, it is important to work with the landscape to preserve and

respect it. Today, there is a demand to restore and preserve rural buildings and mountain huts. To explore these current issues, we believe that these buildings and their relationship and interaction with the landscape can provide a strong foundation for modern and contemporary designs.





PART THREE

ALPINE PERCEPTION

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MEMORY

It was better before. We don't want to go into the paroxysm and cliché of this phrase, but what interests us is the action it calls for, the action of memory.

(...) *Hope goes with Memory*.⁰¹

It is not the art that we think of first when we quote a Greek art, but we must know that the Greeks invented the art of memory. This art, since transmitted from civilization to civilization, aims to allow memorizing through places, images which stimulate the memory *The mnemonic*⁰². Everyone knows the technique of counting the months of the year on ones hand in order to know if this month comprises 30 or 31 days for example. This processus called *ars memorativa* by Frances Yates⁰³ had been transmitted from the Greek to the Roman Empire and started spreading.

These mnemonic systems can be applied to places and their architecture. For example, a person can remember his house, his village square where one played as a child, or a person can remember a city one visited and fell in love with. But this can also apply to a landscape. This is the case of the famous *Ranz des vaches*, the traditional Swiss sound that evokes the Alps and the love of the landscape that shapes the country.

*I have added to the same Plate the famous Ranz-des-Vaches, this Air so cherished by the Swiss that it was forbidden under penalty of death to play it in their Troops - Napoleonic - , because it made those who heard it melt into tears, desert or die, so much did it excite in them the ardent desire to see their country again*⁰⁴

Besides reminding us of places and atmospheres, this art also serves as a source of knowledge. Memory; remembering how and with what techniques our parents worked, they who used knowledge passed

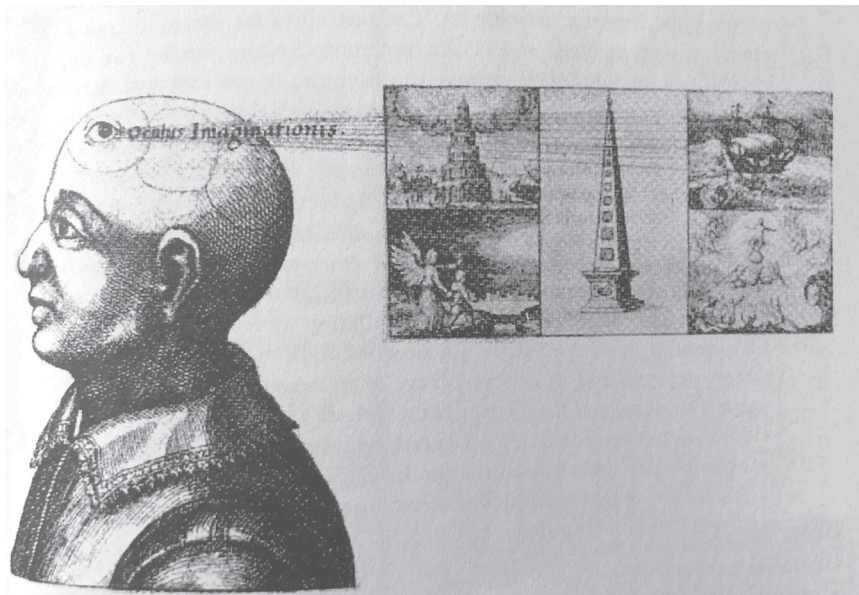
01. Kevin Lynch, *What Time is this Place?*, 1972

Robert Fludd, *Ars Memoriae*, 1619

02. The word "mnemonic" is derived from the Ancient Greek word, meaning 'of memory'. It is any learning technique that aids information retention or retrieval in the human memory for better understanding.

03. Frances Yates, *L'Art de la mémoire*, trad. fr. Daniel Agrass, 1975

04. Jean-Jacques Rousseau page 317 of his *Dictionnaire de la musique*



on by their parents. Techniques perfected from century to century and from transmission to transmission. This art of transmission which nowadays has disappeared so much in the face of technology and which in the end reinforces this cultural distance towards our origins.

Aldo Rossi, in *The Architecture of the City*⁰⁵, says that the city is itself the memory of the people; and as memory is linked to facts and places, we can say that the city is the locus of collective memory. This relationship between the locus and the inhabitants of the city therefore becomes the predominant image, the architecture, the landscape; and just as facts are inscribed in the memory, new facts appear and are formed as forms in the city. It is in this concrete way that the great ideas run through the history of the city and give it its form. This idea gives a certain humanity to the city, which would be a being that develops according to the memory of each individual.

But what would happen if the people were to become alienated and lose this faculty of memory as we have seen? What can we expect from the future of our houses, neighborhoods and cities?

*This will kill That*⁰⁶

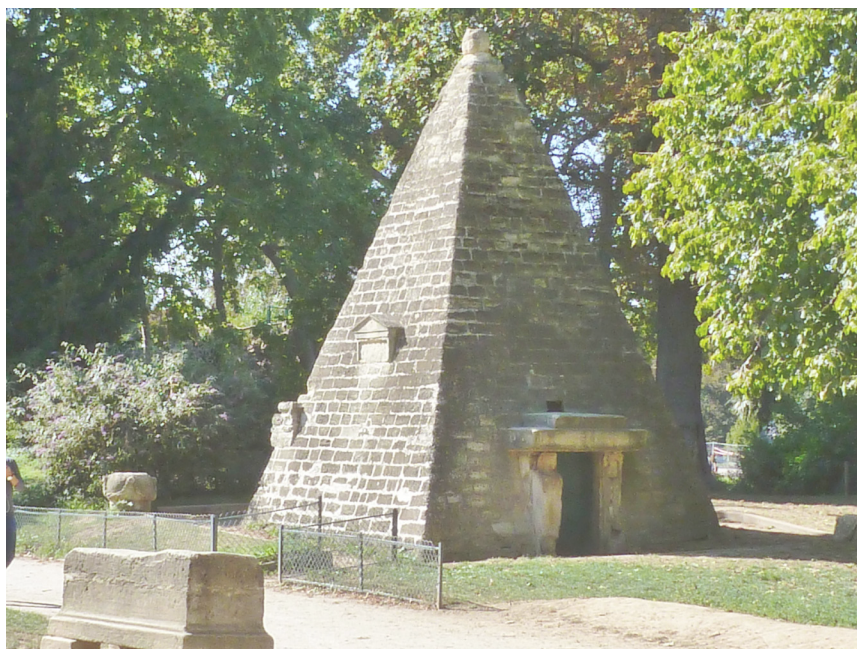
In such a situation Victor Hugo's famous words are still very relevant. In this way if we go back even further in time than discussed in part one of this research. If instead of looking at the notions of landscape in order to better understand the construction of the Alps and to try to define an ideal, we would rather turn to this idea of a route. A route that we have unintentionally programmed with our hike.

05. Aldo Rossi, *L'architecture de la ville*, 1966

Pyramide du parc Monceau, Paris, 1770

06. Victor Hugo, *Notre-Dame de Paris*, 1832

The Monceau park owes its origin to Philippe d'Orléans who asked the engineer Louis Carrogis, known as Carmontelle, to create a garden bringing together all times and places. Thus were built a wood of tombs, a water mill in ruins, a Dutch windmill, a white marble temple, an obelisk, a minaret, an Egyptian pyramid etc... The site was quickly called "the madness of Chartres".



THE PARCOURS

Architecture is the simplest way to articulate time and space, to modulate reality, to make people dream. It is not only a question of articulation and plastic modulation, expression of a passing beauty. But of an influential modulation, which is inscribed in the eternal curve of the human desires and the progress in the realization of these desires. The architecture of tomorrow will be a means to modify the current conceptions of time and space. It will be a means of knowledge and a means of action.⁰⁷

The Genesis project⁰⁸ aims to show the raw and primitive beauty of our planet. It aims to re-discover a period before all the damage was done in order to better preserve the future. So after having sought answers by going back through the centuries in search of the population's perception of the landscape, such as in part one, we now want to seek answers through a physical action: Walking.

For if the Alps are directly linked to the landscape, the landscape is first defined by walking. If this action first played a key role in the development of our human race through the migration of people and commercial, cultural and religious exchanges, walking has also led to the mapping and appropriation of the territory.

The very idea of moving stems from a natural need that every species has. To move, to fight for survival by migrating according to the seasons and the resources available. Following sedentarisation, walking has evolved from an essential primary need into a symbolic form that has allowed for exchange and interaction. The idea of the journey and aesthetics followed to inhabit a territory previously representing chaos and transform it into an ordered space on which architecture develops. We can thus say that walking is a whole that carries within it the arts, architecture, sculpture and landscape. Through this simple action, putting one step in front of the other, one has been able to develop and create a link with its habitat, its territory.

07. Ivan Chitchevlov (alias Gilles Ivain), *Formulary for a new Urbanisme*, 1953

08. Sebastiao Salgado, in collaboration with Instituto Terra, 2012

Sebastiao Salgado, *Genesis*, 2012



As a result of this action, paths and then roads have become major elements of our society. So much so that John Brincker Jackson, a great observer and theorist of the landscape, said that roads generate a new form of space that humans must also inhabit because we are facing a new type of sociability.

*Roads no longer just lead to places, they are places*⁰⁹

Jackson then introduced, without having invented it, the term homology. Coming from hodos, a Greek term meaning road, path, journey, this term defines a space that is opposed to the geometric space hitherto known defined by plans and maps. The hodology emphasises the way over the path, the geographical feeling over the metric calculation.¹⁰

Finally Jackson reminds us that man is in a state of perpetual hesitation. Always torn between the feeling of wanting to settle down and belong to a place in order to feel good there, but also the desire to escape and find elsewhere as a new field of action. Because at the root of travel is often an existential need. The Indo-European root of the word experience is per, which has been interpreted to mean to try, to test, to risk¹¹. This conception of experience as a test, a ritual of passage through an action that redefines the dimension and nature of the person, also describes the earliest conception of the effects of travel on the traveller.

Tony Smith's experience of a road trip is equally explanatory of this definition. He had a kind of ecstasy which he defines as

*the end of art (...) The road and most landscapes are artificial, and yet we cannot speak of a work of art*¹²

Apart from the question raised by the author, what interests us more is the awareness and the idea that art can also be revealed, felt outside of museums and we thus fall back into the spatial experiences lived and the great dimensions of the landscape.

09. J. B. Jackson, *A Sense of Place, a Sense of Time*, Yale University Press, New Haven, 1994

Richard Copans, *Paris Périph*, film, 2004

10. *Ibid*

11. Erich J. Leed, *The Mind of the Traveler*, 1991

12. revue *Artforum*, *Talking with Tony Smith*, 1966



NEGATIVE SPACES

*My art form is the short journey one takes walking through the landscape. (...) The only thing we should take of a landscape are photographs. The only thing we should leave are footprints.*¹³

The context previously explained was by Rosalind Krauss' reflection in the 1950s. For her, the art in question is sculpture, which she transposes as the negative of architecture. Negative because the sculpture is then, by habit, in front of a building but without being this building. Just as the sculpture can be found in a landscape without being the landscape.

*It (sculpture) is now the category resulting from the addition of non-landscape and non-architecture. [In other words, non-architecture is just another way of defining landscape, and non-landscape is, quite simply, architecture.]*¹⁴

These defined actions are ultimately the result of an experience with a body, an object. The image of the landscape that we have, whether it is through performance, sculpture or landscape architecture, is the result of the absence or the negative as Krauss says. But this absence is the result of something, and we can then say that the absence takes a form, becomes an object. This object is perceptible when walking. The simple presence of a body in the middle of the landscape becomes symbolic, becomes this sculpture or the trodden grass on which a trace is left. This very philosophical and particular experience will be implemented by Long.¹⁵ He uses his body as a measuring tool and during his walks he calculates the direction of the wind, the temperature, the time.

To put it like Levi-Strauss, Long walks along *cold territory*¹⁶ he relives the Neolithic experience in search of the origin of art. Tony Smith explores *warm territories*¹⁷, territories where the hand of man has transformed nature. Industrial wastelands, abandoned urban

13. Hamisch Fulton, citation

Richard Long, A Line by walking, 1967

14. Rosalind Krauss, *The Originality of Avant-Garde and Other Modernist Myths*, 1985

15. Richard Long, main character of Land Art. Contemporain Art which use natural element as composit and expose outside

16. Claude Lévi-Strauss, *Art trough camera's eye*, 1971

17. Ibid



areas and territories where one can perceive a transition of nature back to wildness but which is then a hybrid wildness, which escapes man again to be re-appropriated by nature.

This leads us to ask the question of emptiness about these places and artists like Gordon Matta Clark, who in the 1970s purchased tiny parcels of land between nearly adjoining buildings, and declared that through negative space there is an emptiness that allows components to be seen in a mobile way - in a dynamic way.¹⁸ But also, and above all, that of speed. We can speak of urban space-time because the city centers are stagnant, nothing can be built there anymore, but the edges of cities are in constant movement, in constant change. In the center, time has stopped, we live in medieval squares and the few changes that have taken place are so visible because of their heterogeneous character that we can say that they are immediately absorbed by the cities. On the other hand, there is a certain dynamism at the city edges. The new neighborhoods that are emerging create new atmospheres and new ways of living. They can become spaces that are more difficult to control or, in the worst case, spaces that are left to deteriorate.¹⁹

These new spaces must be filled. They must be filled in the physical sense with objects and maintained, but they must also be filled with meaning. You have to be able to believe in your places.

*It is not a question of a non-city that should be transformed into a city, but of a parallel city with its own dynamics and structures that have yet to be understood. Spaces that remain to be understood and that for the moment remain mostly misunderstood.*²⁰

They form spaces that Krauss would call the negative of the built city. Places of memory where the dreams of certain urban theorists hoping to have reinvented the city mix with reality and create territories that Stalker calls actual territories.

*The actual is not what we are but rather what we are becoming, what we are becoming, namely the other, our becoming other.*²¹

18. Emmanuel Hocquard, *Ma haie, un privé à Tanger II*, 2001

Gordon Matta Clark, rue Beaubourg, 1975

19. Francesco Careri, *Wlkscape*, p.182-183

20. *Stalker*, à travers les Territoires Actuels, 1995

21. Gilles Deleuze, Foucault, *Historien du présent*, Magazine littéraire 257, 1988

Stalker is a collective subject that undertakes research and actions on the territory, with a particular attention to the margins and urban voids, abandoned spaces or in transformation. In these multiple roles, he is about to confront the seemingly insoluble contradictions around the possibility of saving through abandonment.



We can therefore understand that these spaces are difficult to access because we cannot locate them in time. We can only learn about them through direct experience.

SYNTHESIS

It was important for us to take this step back after part I and II and try to understand the feeling about the mountain and the way of building with a new approach. Because it would be a lie to say that even if we are mountain lovers, that we are objective. Both of us grew up near a city and in a way we are sure we are kind of alienated by the city. In this third part we looked at the evolution people have had with their home.

Ever since humankind has overcome their fear of the mountains, we can say the aim of society has been to control nature and territory. And so, a turning point has been reached, a point of no return. We can see it in cities, the woods that used to surround the cities and villages serving as infinite reservoirs for the collective imagination and thus creating freedom have been pushed to the background. The cement, the heart and muscle of the cities, is beginning to crack, it is allowing the earth to pierce it. This earth emerges creating new places and is ready to compete for the domination of space. In an attempt at total control we then see, what hockey fans would call a "loss of momentum".

What if the answer to all of this could simply be summed up in one word: walking.

Nowadays, as Francesco Careri says in *Walscapes*, architecture students know the great theories of architecture by heart, but how many have played football in the street? How many have ever wandered around the city, run trying to escape the big guys in the building next door or simply stopped to ask a passer-by for information. These actions, which used to be harmless but are nowadays greatly threatened by the virtual profile, contribute to the development of all. For what does it mean to have a safe city?

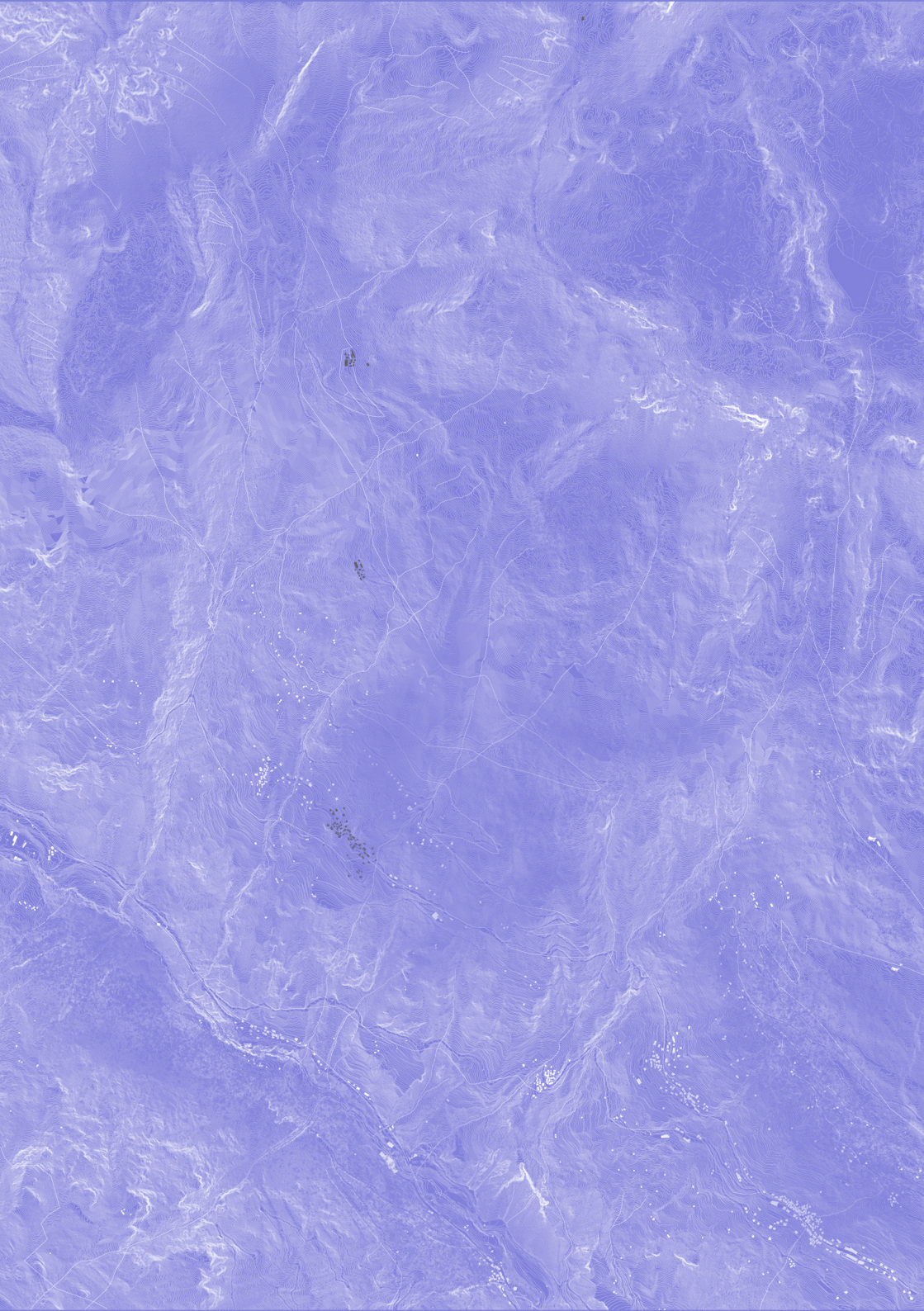
It may be trivial, but for us it means making sure that people walk in the streets, meet and interact.

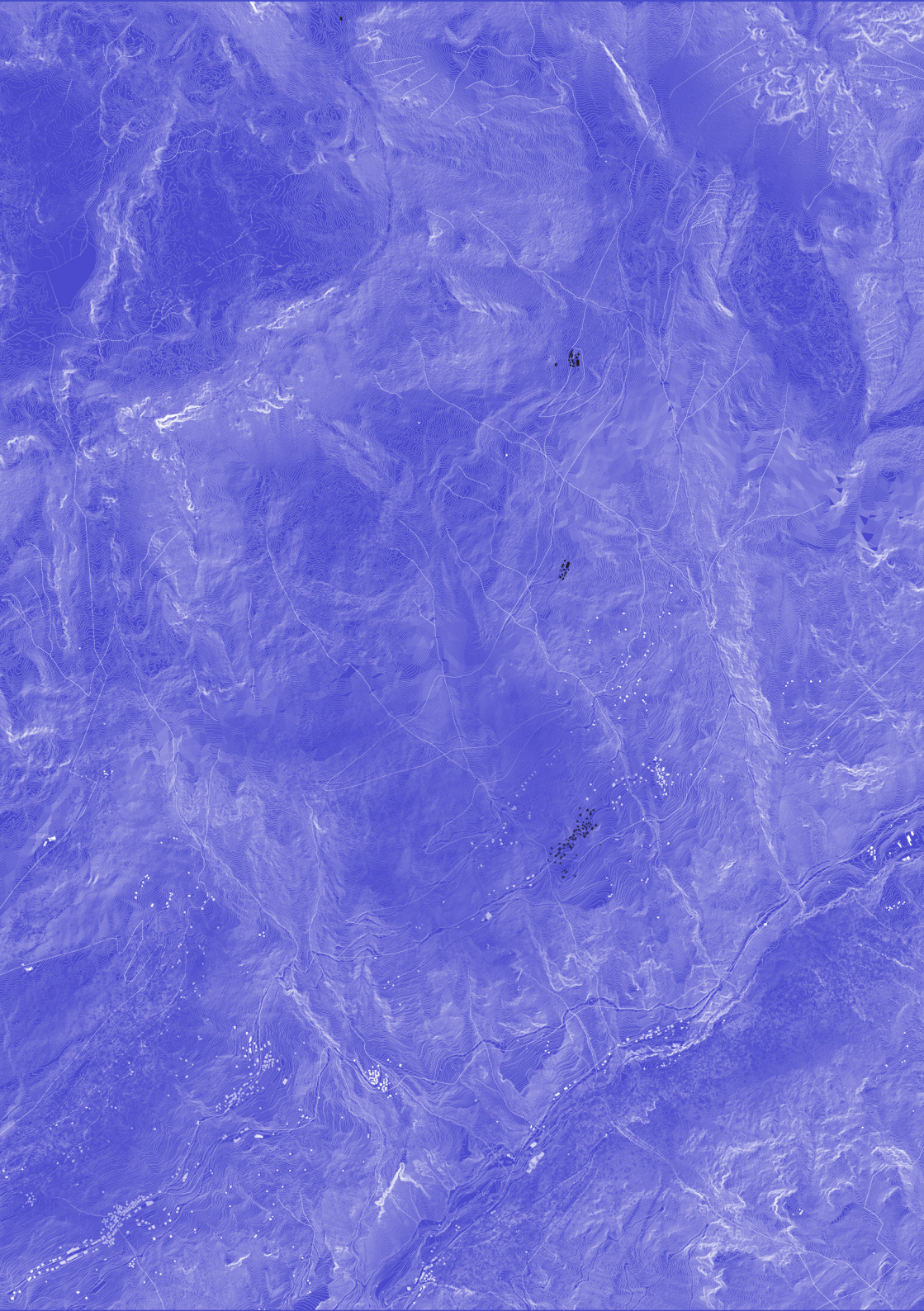
In conclusion, we who live in a country that allows for free walking should get out of the building, out of the control and let ourselves be lulled by a natural acceleration offered by the unknown. Whether it is standing next to a tree in front of our neighborhood or hanging from a rope at a height of 500m on a mountain, everyone can experience it and thus be better able to make their own experiences and understand their origins and what surrounds them.

The journey, our journey, should maybe have not started so isolated in the middle of nature, but should have started much earlier, in the actual territories that *Stalker* calls home.

The idea we are trying to communicate is not that architects or landscape architects should leave their offices with their backpacks. Nor is it to denounce a total absence of routes, paths to get lost in today's cities. But we wanted to use walking as an instrument to perceive and form an opinion on metropolitan spaces that were previously traversed at full speed. Walking has the quality of both reading and writing spaces and thus allows us to interact with our environment.

We would like to invite the reader for a walk, to wander and to take the path that one normally takes by car, bus or bicycle to take the time to look up and feel, to sense and finally to live.





PART FOUR

ALPINE ARCHITECTURE TOMORROW

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CONCLUSION

The intention of this énoncé théorique was to respond to the question of how to build in the Alps. We started off by going back in time to the Middle Ages and how these wild Alps were discovered and perceived. This gave us a better understanding of the alpine landscape, which persists throughout the whole research.

We analyzed different building typologies, namely alpine farmhouses and mountain huts and we went for a walk, *chin jou martcha*. During this fieldwork we tried observing with all of our senses, such as touch, smell, hearing, and of course, sight. This helped to take a step back and to look and feel the environment that the alpine buildings have been built in.

While the first two parts focus on the alpine region, the third part of the énoncé takes into consideration the relationship between the city and rural environment. For centuries the Val d'Hérens had been autonomous and city centers were focused on themselves. For centuries the urban and rural world grew side by side. However, in the last century this balance has shifted. A migration from the rural lands to the city has taken place, in hope of jobs and a better life, leaving behind a built territory. A comparison of the two ways of life become a confrontation.

Ever since the end of World War Two, the cities influences have slowly been crawling up into the mountain valleys. People are drawn to nature and the mountains like flies to a street lantern and therefore the demand for more vacation homes and touristic infrastructure keep growing. It is a subject that doesn't just concern the past and present but notably the future.

Like the *patois* dialect, there are fewer and fewer traditional buildings that can keep up with modernization and the speed of time, which have influenced the evolution of Alpine building typologies.

The alpine landscape is becoming more and more built up and therefore, in our opinion, the preservation of traditional buildings and the respect for such a pristine environment, should be key factors when designing and constructing in the Alps. This does not mean

the neglect of modern technology and its advances, but rather to learn from the past and present. Take advantage of the knowledge handed over from generation to generation and the use of natural and local materials, which have survived for centuries. And last but not least a humble and respectful integration into the landscape.

One way to approach the broad and complex question of how to build in the Alps, would be to immerge oneself in the environment. Take a break from the city bustle and simply go for a walk. A walk in the Alps.

THANKS

We would like to dedicate this page to all of those, who have helped to shape our énoncé théorique. We would like to express a special thank you to:

Our team at EAST, Anja Fröhlich and Tiago Borges, who have guided us throughout the semester with many helpful inputs, critiques, ideas and motivation.

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My grandpapa Max, from whom the love of walking and the mountains came from.

To Dad, for his positivity and humor, and to whom I owe my love and passion for the Alps.

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