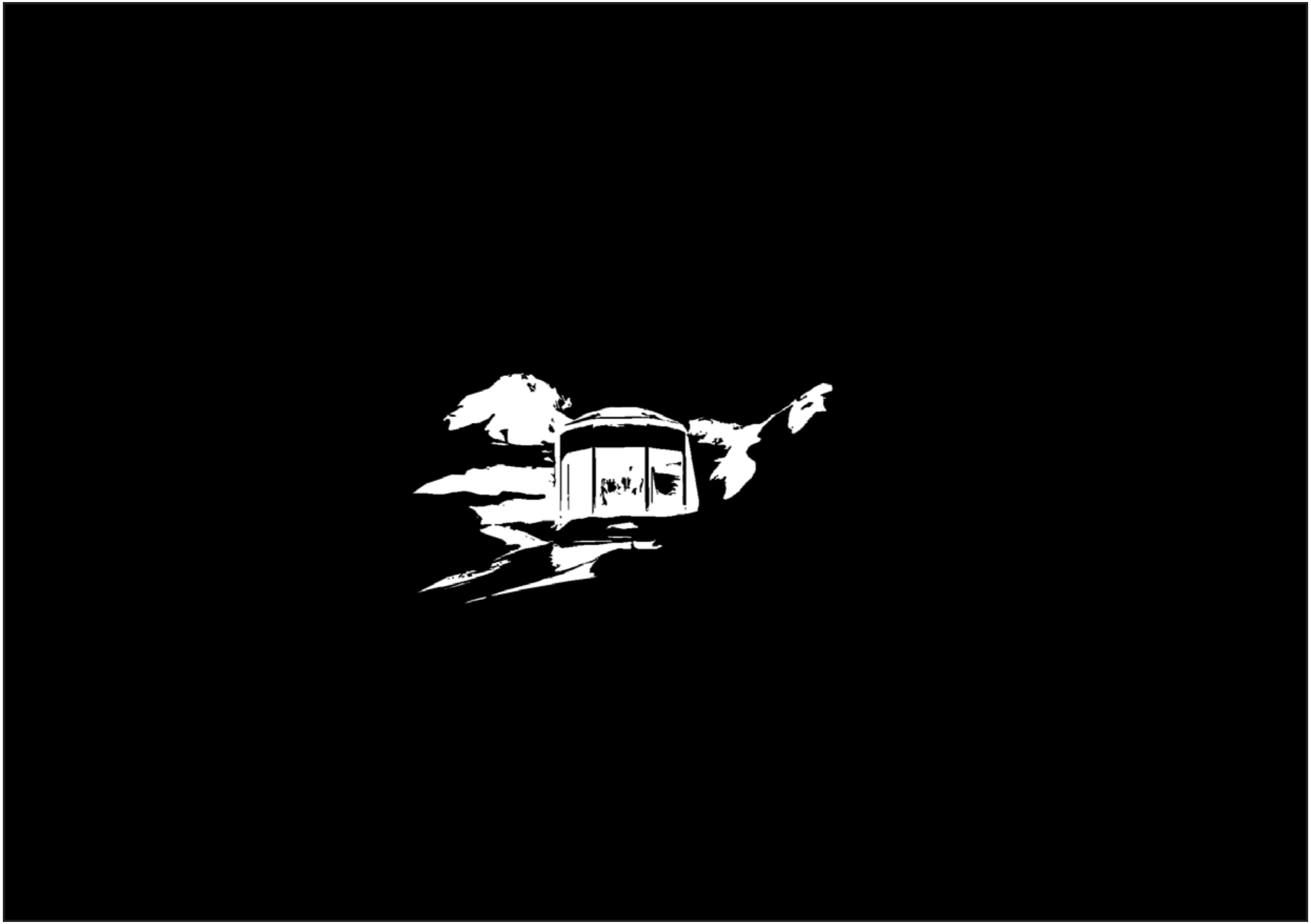

ENONCE THEORIQUE_SAR_EPFL

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OBSOLETE
HIGH ALTITUDE
ARCHITECTURE

FOREWORD

FOREWORD

Switzerland's identity has forever been associated with the image of mountains. The Alps constitute more than a half of the Swiss territory, providing a strong traditional and cultural background. Tucked away in the mountainous valleys, the rural alpine communities of the 18th century mainly lived in isolation, managing to sustain themselves by living off the land whilst taming the richness of alpine resources. Later on in the 1900's, society evolved towards an industrial and touristic activity, turning the Alps into an immense playground for newly accomplished adventurers.

Wherever man goes, he leaves his mark in one way or another. Architecture is the main testimony of a human presence in the mountains, the primal need for shelter in this harsh and desolated environment. These buildings bear witness to the various activities of man in the Alps, and many have since been abandoned to the wear and tear of time.

Being two students who live in the mountains and have forever been passionate about them, we have discovered and interest in obsolete mountain architecture, for what it represents and for the emotions it treggers. This is a very broad topic in which it is easy to get lost. There is hardly any specific documentation on "abandoned" structures in the Alps. Every type of architecture has its own history and reasons to be present in the mountains, making it difficult to generalize.

Our approach has been on one hand to understand the inherent human attraction to mountains which has progressively led to the building of alpine architecture. On the other hand, we have created a catalog. This method helped us to illustrate and objectively qualify the objects we selected for our collection. We consider our work to be a legitimate research on a subject that has yet to be explored, a sort of toolbox that could evolve.

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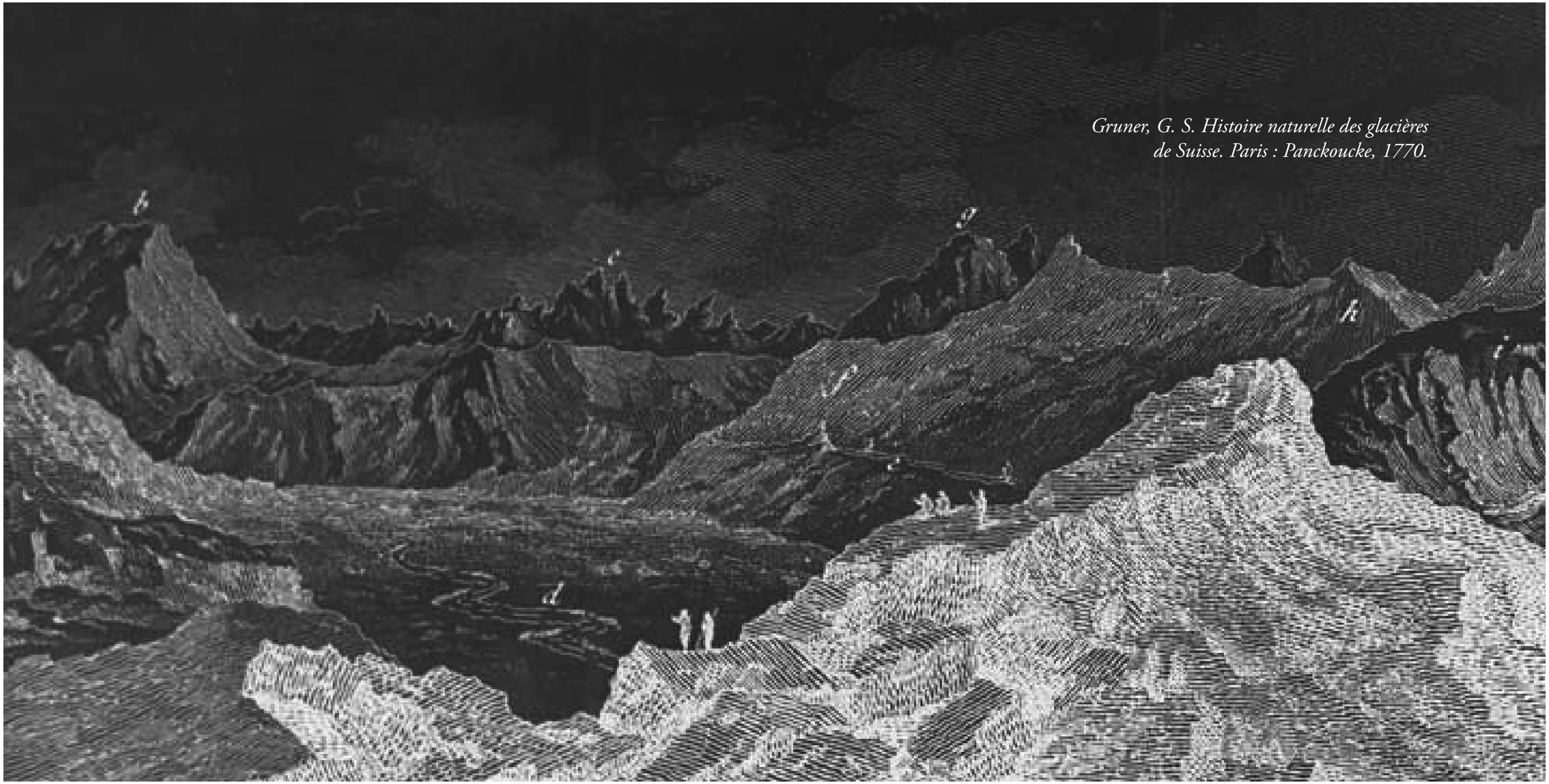
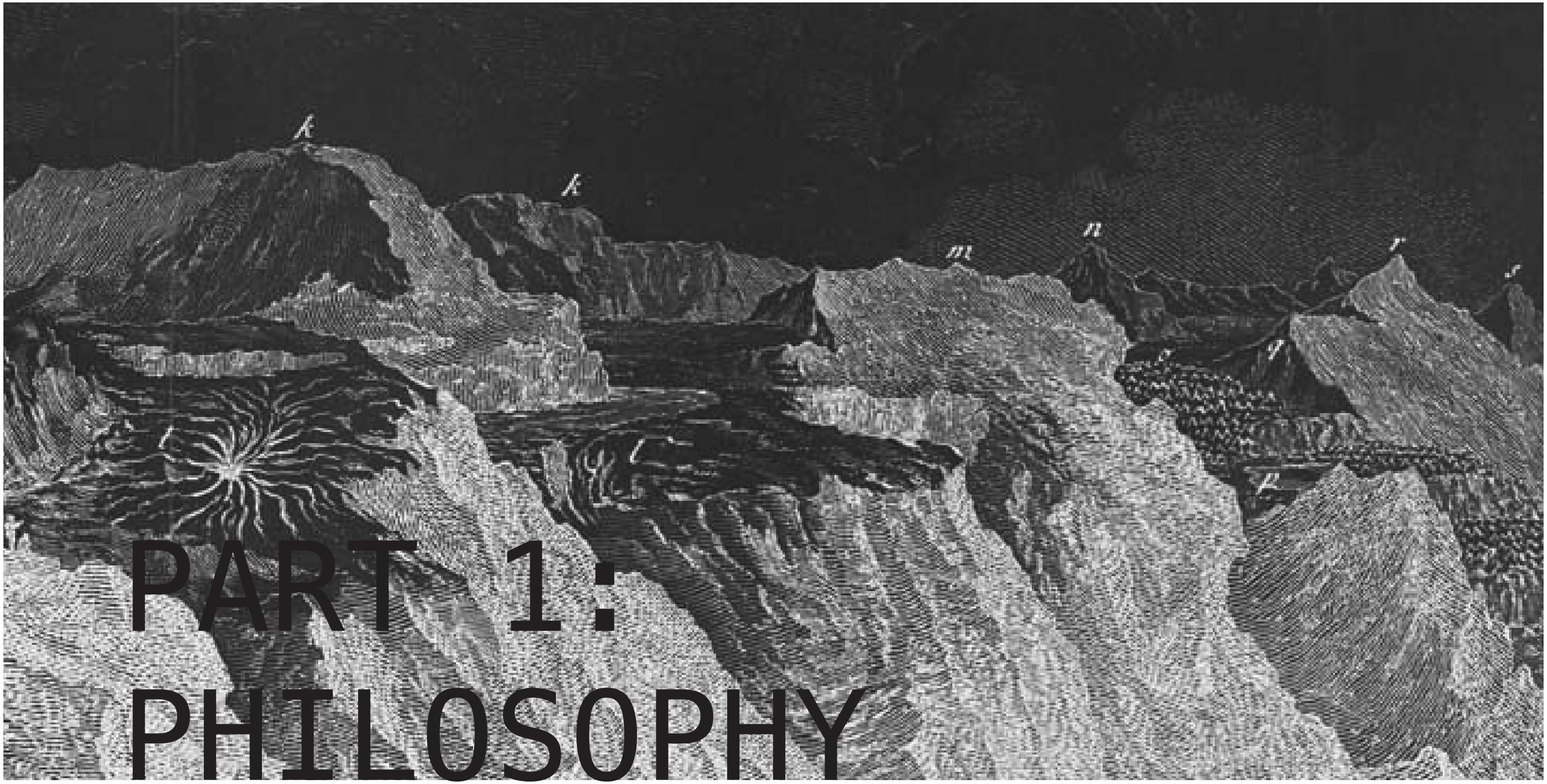


Gruner, G. S. Histoire naturelle des glacières de Suisse. Paris : Panckoucke, 1770.

PART 1: PHILOSOPHY



WHY HIGH?

INTRODUCTION

Are we born with the love of mountains? Maybe this topic isn't comprehensible to people with no interest in them. Yet the appreciation of mountains can be cultivated, all it takes is a little curiosity.

So where does the obsession for mountains come from? For centuries, men have been fascinated by the desolated hostile high altitude world that paradoxically draws our attention and creates passions. How can we explain mountaineers' possessive impulse to climb the highest peaks, at the risk of losing their limbs to frostbite and suffering the effects of extreme altitude incompatible with the human body that could kill them at any time? Why high, rather than staying safely on the flat plains where we first evolved?

To try to answer these questions, or at least to clarify this type of irrational human behavior, it is necessary to look into the past at the emotions people felt when they first discovered the alpine world.

Until the 17th century, mountains were largely unknown to men. They were never visited and considered a hostile environment: the realm of the supernatural where Gods and other monsters lived. Many legends tell of the divine and evil forces inhabiting the mountains. For example, it is said that the people of Uri encountered the Devil on the "Teufelsbrücke," which was the only access across a narrow valley on the way up to the St. Gothard pass, and he asked them for an innocent soul in exchange for safe passage. The Uranais cheated the Devil by sending a goat across the bridge which enraged him so much that he cast a huge rock down on the bridge, but missed… Nowadays the boulder is still visible lower in the area of Göschenen.

Jakob Scheuchzer, author of the Swiss dracopedia, was convinced that dragons inhabited the

Swiss Alps and ended up creating a compendium of the different species found in the mountains. Later on, it was agreed that Scheuchzer was mislead by the large shadows cast by big alpine birds soaring through the thin air high above.

Later in the 18th to 20th century, mountain stories revolved around the fascinating and yet morbid accounts of alpinist expeditions to the Alps and Himalayas, which have since stirred the imagination of the general population.

An example amongst many other of these stories, is the account of the first attempt on the Annapurna in the Himalayas by the Frenchman Maurice Herzog and his team in 1950. At that time, the mountain was the highest peak yet to be vanquished by man. Herzog had to dictate his story from a hospital bed in 1951 after the expedition, having lost all his fingers to frostbite.

He describes this high altitude world as "*a savage and desolate cirque of mountains never before seen by man, no animal or plant could exist here. In the pure morning light this absence of all life, this utter destitution of nature, seemed only to intensify our own strength. How could we expect anyone else to understand the peculiar exhilaration that we drew from this barrenness, when man's natural tendency is to turn towards everything in nature that is rich and generous?*"[1]

The fact that Herzog preferred to make it to the top of the mountain at the risk of death rather than retreat, even losing fingers in the process, was considered madness and incomprehensible to most people. Of course some may say that a sense of pride and boldness kept them going - men often overestimate themselves in the the desire to be the "first" to conquer a mountain. For Herzog, it was something more than a mere desire of recognition. Nearing the summit,

1. *Maurice Herzog, Annapurna, 1952 : p.111*

△ *An alpine dragon as imagined by Jakob Scheuchzer*
▷ *The Annapurna range in the Andes*

he realized that he was getting severe frostbite and he'd need amputation if he didn't descend immediately. But he pressed on to the top, first of all because he was losing his wits with the high altitude and thin air. He was in the famous "death zone" where the body commences an inevitable process of degeneration: all his senses were numbed and he didn't feel any pain. Secondly, he preferred to die rather than turn back, which would have been the finest death a mountaineer could ever dream of. The notion of reaching a summit and experiencing from a great height the "*scenes of dazzling brilliancy*" described by John Auldjo, would be a sufficiently beautiful reason to risk one's life.

"*There was something unusual in the way I saw (…) everything around us. (…) All sense of exertion was gone, as though there were no longer any gravity. This diaphanous landscape, this quintessence of purity – these were not the mountains I knew; they were the mountains of my dreams. (…) I felt my feet freezing, but paid little attention. The highest mountain to be climbed by man lay under our feet! (…) How many had found on these mountains what, to them, was the finest end of all… I knew the end was near, but it was the end that all mountaineers wish for – an end in keeping with their ruling passion. I was consciously grateful to the mountains for being so beautiful for me that day, and awed by their silence as if I had been in church. I was in no pain, and had no worry.*"[2]

It is interesting to see this duality between a real mountain and a mountain of dreams such as described by Herzog, that the mountain that one climbs is something else than the mountain he dreams. Objectively, mountains are merely geological features made of ice and rock, they simply exist and remain the same, independently of human beings. They do not deliberately kill or please. Emotions towards the mountains have been born within the human imagination. Through stories and accounts passed down from previous generations, they have been

2. *Maurice Herzog, Annapurna, 1952*

▹ *An alpinist reaches the summit of the Annapurna*

imagined into existence. Nonetheless, time and experience has proven that the mountains of the earth are far more robust and fatally real than "*the mountains of the mind.*"[3]

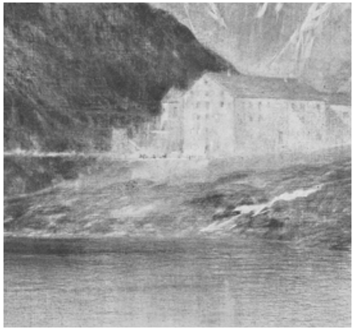
Lord Byron Child Harold declared that for him "*high mountains are a feeling.*"[4] In 1862, Ruskin admits that "*the effect of this strange Matterhorn upon the imagination is indeed so great that even the greatest philosophers cannot resist it.*"

Over the past 40 years, mountain-going is one of the fastest growing leisure activities[5] and many people still die at high altitudes, nowadays often for lack of experience. Mountain worship has become an established fact for millions of people. The ferociousness, the verticality, the icy, the desolation, the steepness, the perilousness and so on have become the most prized aspects of mountaineering. Our perceptions towards mountains have changed compared to our ancestors.

3, 4, 5. *Robert Macfalane, Mountains of the Mind, 2003 : pp.19, 21 & 17*

▹ *Some pioneers of mountaineering. In the footsteps of the geologist Rudolf Staub (1890 to 1961) Picture archives Zurich*

THE CONTEMPLATION OF DEEP TIME



It is necessary to take a step backward in time to when people started looking towards the mountains. Until the 17th century, people disliked mountains as they were considered a hostile place, where only the exiled and the barbaric would dare venture. Their rough and dangerous deserted terrain placed them in opposition to the qualities typically enjoyed by humans in tame landscape, with agriculture, easy rolling hills and orchards.

Mountains used to be an unwanted hassle, intrusive obstacles separating different geographical areas. People would rather go around them than over them, it was longer but was certainly less dangerous. Nonetheless, in Europe, some passages through the Alps existed with hospices in the passes, serving those who dared to make their way up and over.

In 1672, the English philosopher and churchman Thomas Burnet decides to cross the mountains by the Simplon pass to get to Italy where he intended to see the Roman ruins and other marvels of the Mediterranean. Before the journey, he was convinced that what he would see would be hostile and repulsive, and that he must get through as fast as possible. However, after the crossing he declared about the mountains that "*there is something august and stately in the air of those things that inspires the mind with great thoughts and passions… As all things have that are too big for our comprehension, they fill and overbear the mind with their excess, and cast it into a pleasing kind of stupor and imagination.*"[6]

6. *Thomas Burnet, The sacred theory of the earth, 1812 : p.109*

△ *Sketch of the Grand St. Bernard hospice by Andre Castaigne*
▷ *A man VS the Glacier de Corbassière, 1883*

Until the 18th century, it was believed that the creation of the earth was a relatively recent event that occurred no less than 6000 years ago. During the seven days of the creation in the book of Genesis, the mountains were created by God on the third day. Brunet had an alternative theory on the creation of the mountains: they were the result of the great flood of the Genesis which was supposed to cleanse the earth of humanity's impiety. According to him,

mountains are the ruined remains of humanity's sinfulness, piled up like rubble. Although this is a theological perspective, it was controversial back in those days and people started turning their contemplative gaze towards the mountains and question their origin relative to the fourth dimension, time.

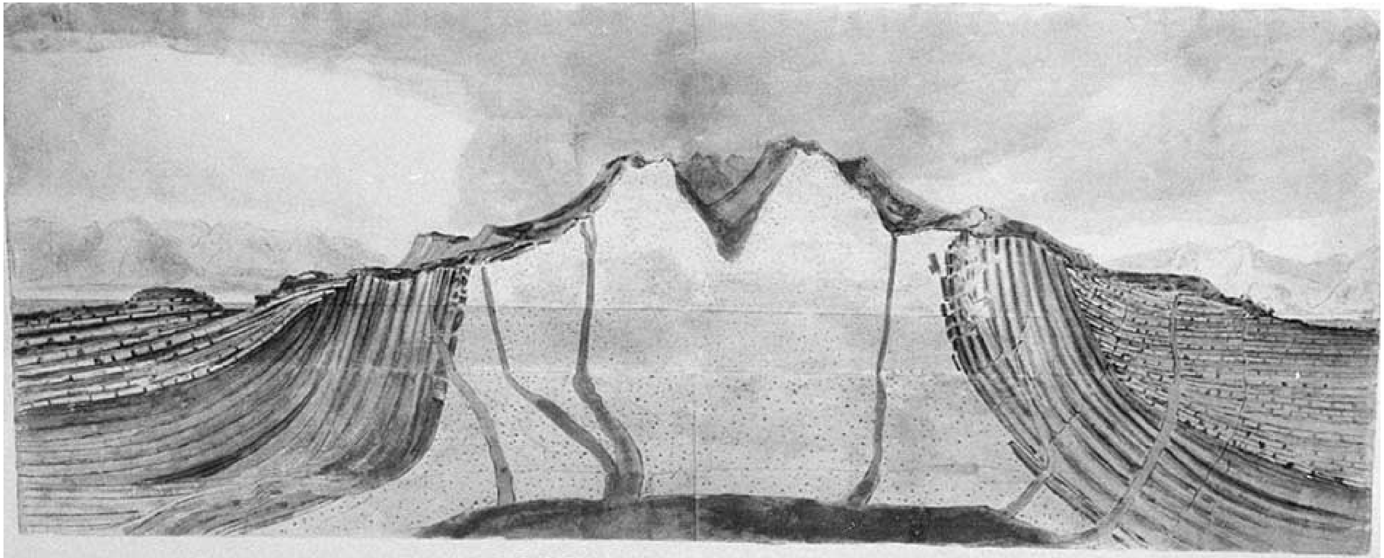
In 1799, the Scotsman James Hutton, considered by many as the father of geology, published the book *Theory of the Earth*. After decades of venturing all over Scotland and observing different types of rocks and landscape formations, he suggested that the world we see today is a mere screenshot of the earth in an infinitely slow process of change and that it is infinitely old in human terms, constantly aging and being modified with "*no prospect of an end.*"[7]

Hutton argued that mountains have been on earth forever and that they are moving, an idea that has shaken up their image of eternal permanence. More than ever, this awoke a new interest in the mountains by people who suddenly realized that when they look at mountains they might be contemplating the vestiges of the earth's past, an assuredly mind blowing concept. "*Our imaginations may be awed when we look at mountains as monuments of the slow working of stupendous forces of nature through countless millenniums.*"[8]

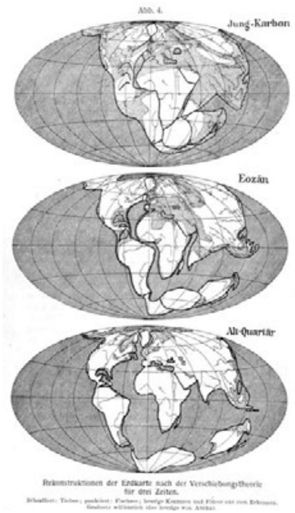
The field of geology was very active during the 19th century with the analysis of the origins of the earth and the creation of the great mountain ranges. Charles Darwin agreed with Hutton's theory that mountains are moving and presses the fact that countless time and inconceivable power formed these waves of rock moving at an infinitely slow pace in synchronization with the universe. In 1912, the German geologist Alfred Wegner affirmed that the continents were moving, he observed that the surfaces of the earth as we know them today could actually fit into each other like a jigsaw puzzle to form a single gigantic continent. This suggested that

7. *James Hutton, Theory of the Earth, 1785-99*
8. *Leslie Stephen, The Playground of Europe, 1871: p.34*

▹ *An illustration in Theory of the Earth, showing the uprise of a mountain due to the collision of tectonic plates*



Detailed E-W section, Northern Granite, Isle of Arran, Strathclyde



△ *Alfred Wegners analyse of the continents' imbrications*

▷ *Strata Types, the different geological layers of rock in Humphry Davy's Elements of Agricultural Chemistry*

with time everything started separating, and that the great mountain ranges were formed from the collision between drifting tectonic plates and the resultant rise of billions of tons of rock.

The mountains rise and crumble due to the continuous motion of the world; the youngest mountains of the world are actually the highest: The Himalaya. Indeed, Mount Everest grows by 5 millimeters every year as India slowly drifts into China, but within several thousands of years it will assuredly crumble down under the effect of gravity. The Alps are some of the oldest mountains on earth, and are also one of the lowest ranges due to erosion over time.[9]

While contemplating mountains we are contemplating deep time which puts the human race into a disabling perspective. Compared to mountains, we are an infinitely insignificant flash in the history of the world, and both humanity and its enterprises on earth (architecture included) are very mortal. At the same time, the contemplation of mountains affirms our feeling of existence in the present moment. This sense of temporal vertigo is another factor in our attraction to mountains: we are privileged to know them in their current form and that they will not forever be there.

"*Those desolate and threatening ranges of dark mountain which in nearly all ages of the world, men have looked upon aversion and terror and shrunk back from as if they were haunted by perpetual images of death are, in reality, sources of life and happiness far fuller and more beneficent than all the bright fruitfulness of the plain.*"[10]

9. *Robert Macfalane, Mountains of the Mind, 2003 : pp.64*
10. *John Ruskin, Of Mountain Beauty, 1843 : vii.10*

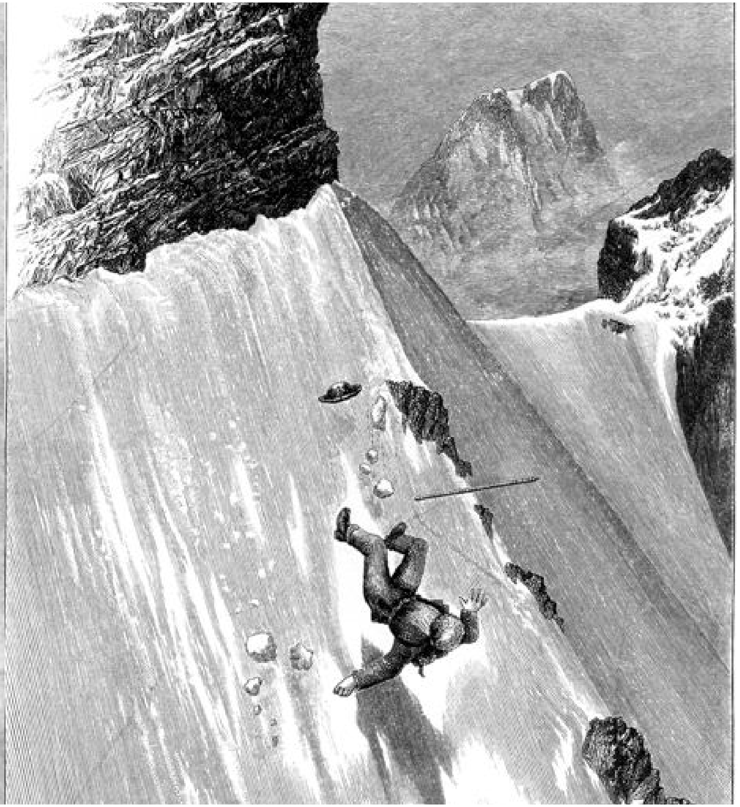
ON THE BRINK OF SELF-DESTRUCTION

The mountain world is an unpredictable and dangerous place for men, even the most experienced and prepared mountaineers aren't safe from the many possible hazards. Not only are there the obvious natural dangers such as avalanches, ice and rock falls or the risk of falling from a great height, but also the effects of altitude sickness which can be very sneaky. At a very high altitude we are prone to cerebral and pulmonary edema. The lack of oxygen and low pressure can also make a man go blind by popping out his retina in a split second… It is a strange thing to risk your life for a pile of rock and ice, and what is even stranger is the the satisfaction we get from putting ourselves at risk. Escaping from a sketchy situation or the near miss of injury or death produces a certain pleasure. Indeed, we never feel so alive as when we have nearly died. It is the combinations of hope and fear that make a man keep on going, and people come to the mountains to seek out these strong emotions.

People used to take risks only when necessary and as a last resort when no alternative solution was possible. A huntsman might put himself at risk when chasing a chamois deep into the mountain, but it is part of his job. Nowadays we seek out unnecessary risk, we would even be ready to pay for it. It might be because it brings us adrenaline and strong sensations, or because it aliments our pride with recognition from others, or maybe it is something more spiritual that we find in our inner-selves when we face such situations.

In 1688, an English playwright and critic by the name of John Dennis crossed the Alps in order to get to Italy. Once he arrived safe and sound on the other side, he wrote a letter to a friend back in England describing his perilous journey which he found to be very difficult, knowing this person had never seen a mountain and therefore had no idea of its powerful emotional grasp: "*We walked upon the very brink (…) of destruction. One stumble and both life and carcass had been at once destroyed. The sense of all this produced different motions in me,*

▹ *George Mallory, climbing in the Alps*
▹ *The deadly fall is always a risk*



a delightful horror, a terrible joy, and at the same time, I was infinitely pleased, I trembled." This description of paradoxical emotions through the use of the oxymoron is pretty subtle in conveying the feeling one may have when voluntarily put at risk, that sense of pleasurable fear.

The sense of beautiful danger and fear associated to the mountains found a first root in the neo-classical doctrine of the Sublime which praises mountain wilderness, danger, fear and bravery. They are part of those terrible objects described by Edmund Burke in *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*; objects whose fascination derives from being too big, too small, too high, too fast, too much of "*something*" to be fully comprehensible by the human mind.

The sublime is not a relaxing type of beauty; it triggers a strong rush of pleasure when one realizes that one is so close to the possibility of self-destruction. It is highly satisfying to stay within a safe distance from that decisive point of no return, a place where harm is unlikely to occur but where it is nonetheless possible to contemplate danger. Security from something frightening and dangerous was described by Jean-Jacques Rousseau in 1785: "*For the odd thing about my liking for precipitous places is that they make me giddy, and I enjoy this giddiness, provided that I am safely placed.*"[11]

This sense of pleasurable danger is anchored in mountain-going culture and has evolved in our mentality and technology, enabling us get ever so closer to danger. Before it sufficed to stand ten meters away from a cliff edge to feel this sensation of giddiness portrayed by Rousseau, now we feel it if we are dangling from the cliff at the end of a secure rope.

The presence of danger has also been an important factor of self-improvement and the devel-

11. *Jean-Jaques Rousseau, Confessions, 1785*

△ *Galen Clark on Glacier Point in Yosemite National Park, ca.1900*
▷ *Sublime painting: An Avalanche in the Alps by Philip James de Loutherbourg*

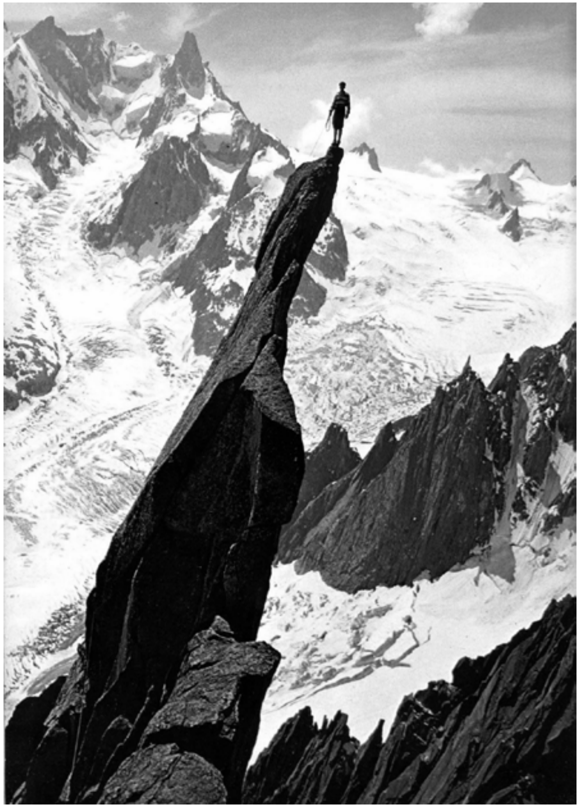
opment of our mental and physical skills. As Ruskin puts it into words in 1863 after a trip to Chamonix: "*That question of the moral effect of danger is a very curious one (…) that if you come to a dangerous place, and turn back from it, though it may have been perfectly right and wise to do so, still your character has suffered some slight deterioration; you are to that extent weaker, more lifeless (…) whereas if you go through with the danger, though it may have been apparently rash and foolish to encounter it, you come out of the encounter a stronger and better man, fitter for every sort of work and trial, and nothing but danger produces this effect.*"[12] Ruskin is basically saying that what doesn't kill you makes you stronger. Samuel Smiles declares in his 1859 publication *Self Help* that "*it is not ease, but effort – not facility, but difficulty, that makes men.*"[13]

George Mallory was one of the first men to attempt Mount Everest. He went back three times and on the third attempt he disappeared forever into the clouds on his approach to the summit. His body was discovered 75 years later on a talus of snow in the north face. Mallory preferred to get to the top that third time and die trying rather than go home defeated.[14]

For the late 19th century bourgeoisie, mountain-going became a popular activity of self-improvement and marked the golden age of mountaineering with many first ascents mainly in the alps. Mountaineering was probably the closest to a military operation a normal citizen could get; with all the gear, the organization and the physical and mental preparation that was required, and then the final fight on the mountain: "*It was mainly the quality of not knowing when to yield, of fighting for duty even after they had ceased to be animated by any hope.*"[15] A sort of natural selection started to occur which, as Darwin would have put it, was a certain survival of the fittest; in the mountains the slightest error that in any other situation may very well be totally insignificant can become life threatening. Mountaineering in the 19th century was indeed epic and deadly at the same time, "*That Alpine witchery still upwards lures, upwards, still*

12. *John Ruskin, Letter to his Father, 1863*
13. *Samuel Smiles, Self Help, 1859*
14. *Robert Macfalane, Mountains of the Mind, 2003 : pp.86, 270*
15. *John Tyndall, Mountaineering in 1861, 1862*

△ *An injured climber gets rescued*
▷ *A man poses proudly atop a very slender ridge*



upwards, till the fatal list grows longer of the early mourned and missed."[16]

Of course with self-improvement came a lot of self-pride for those who made it to the top of a mountain. First ascents turned alpinists into conquerors, sudden heroes or myths, depending on whether they made it back down alive or not. John Tyndall's account of his impressions after having set foot atop the Weisshorn conveys this heroic mentality: "*I pressed the very highest snowflake of the mountain and the prestige of the Weisshorn was forever gone.*"[17] The Matterhorn disaster caused altogether more fascination than horror, and the deceased alpinists were praised as titans who had battled with the gods of nature.

16. *Frances Ridley Havergal, Poetical Works, 1884 : p.304*
17. *John Tyndall, Climbing the Weisshorn, 1862*

▹ *A party of 19th century alpinists in Courmayeur.*

THE WORLD ABOVE THE WORLD

Mountains, like oceans, are extreme landscape forms, but unlike the agitated seas, they produce an inspiring impression of extreme stillness. The high mountain world is a separate place from the world below, hidden from view by the altitude, where the vegetation gives way to the mineral and the ice, a place where the elements dissolve into one another, defying the conventions as we know them. Water turns to ice and back to water, the eternal snows stay forever cold, challenging the radiating sun without ever melting. The conventionally invisible air takes a dynamic visual expression when filled with millions of minuscule crystals and snowflakes. Snow becomes the natural architect of the elevated world, with a tendency to smooth out the complexities of the landscape in a pure Euclidian unity. Snow and ice create an endless realm of ephemeral artistic and architectural wonders, sculpted by the sun, wind and gravity. Altitude gives deepness and immensity to the vastness of the mountains, colors and details seem to be way more acute and stand out more in the thin air. The light is also different up there, and produces unique effects such as the "*Alpenglow*" or "*Brocken Specter*".[18]

The seemingly eternal stillness can be suddenly shaken up by the violent collapse of a rock tower or a serac that had proudly stood for a millennium. Our bodies feel tingly and our heads get light weighted with the altitude, with time our blood multiplies its globules thus making us stronger and more resistant to exhaustion. All our senses are numbed but our vision, putting us in an alternative state of perceiving our surroundings where everything is intensified.[19]

Time passes by differently in the mountains. We loosen our grip on our fast day-to-day pace and our distant future worries, life slows down in the stillness of this majestic scenery where all features seem to have been frozen in time. Our focus turns towards our most basic needs such as warmth, food, shelter… If a problem occurs in such a place, time and action shiver and re-

18, 19. *Robert Macfalane, Mountains of the Mind, 2003 : pp.217 & 202*

▹ *Photography by Jimmy Chin: Arita Sherpa and Ang Tsering Sherpa carrying gear up to Camp 2 on Mount Everest*

configure themselves in relation to that moment, leading up or out of it. We experience a new temporality of existence in the mountains which can provoke a certain disorientation once we reenter the "*real world*"; such an effect of temporal vortex is well illustrated in *The Magic Mountain* by Thomas Mann. One may feel like a stranger returning to his country after many years abroad, with experiences and stories to tell but that are beyond the power of speech.

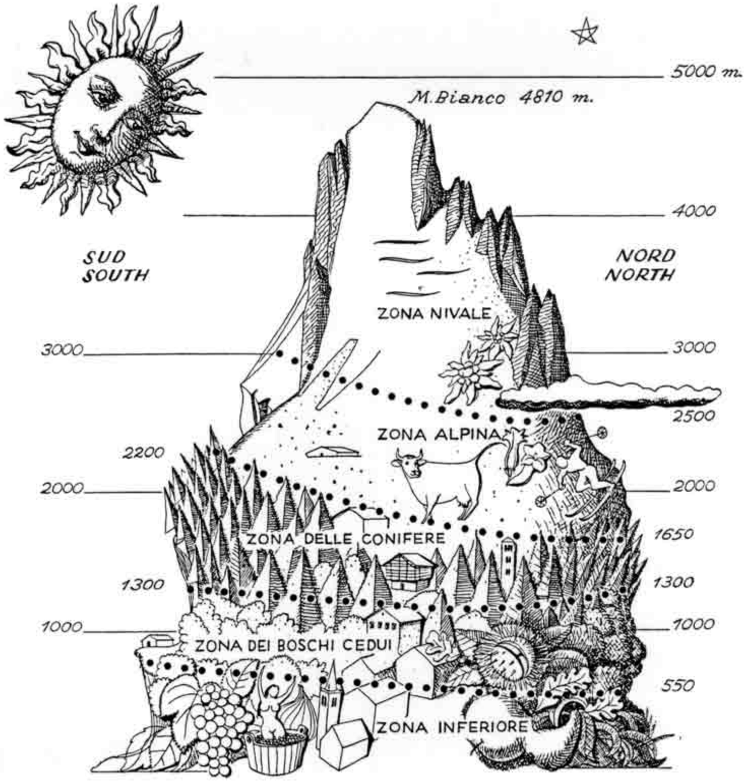
Back in 1541, Conrad Gesner had already realized how the high mountains were such a world apart: "*Of truth the highest parts of the loftiest peaks seem to be above the laws that rule the world below, as if they belonged to another sphere.*"[20] In 1761 Rousseau added: "*It seems as if, being lifted above all human society, we had left every low terrestrial sentiment behind: and that as we approach the aethereal regions, the soul imbibes something of their eternal purity. Imagine to yourself all these united impressions; the amazing variety, grandeur and beauty, of a thousand astonishing sights; the pleasure of seeing only totally new things, strange birds, odd and unknown plants, to observe what it is in some sense another nature, and finding yourself in another world… one isolated in the higher spheres of the earth. In short there is a kind of supernatural beauty in these mountainous prospects which charms both the senses and the minds into a forgetfulness of oneself and of everything in the world.*"[21]

For some people, climbing mountains was a means to get closer to divinity, indeed the heavens are supposed to be above. The Chinese believed that the mountains supported the celestial void, while the Incas climbed to 6000 meters of altitude in the Andes to make sacrifice altars, and it was at the top of Mount Sinai that Moses received the ten commandments.

In 1934, Maurice Wilson, a firm believer in the divinity of the mountain, illegally flew a small plane from England to the high plains at the foot of Mount Everest and started climbing the

20. *Conrad Gesner, On the Admiration of Mountains, 1937*
21. *Jean-Jacques Rousseau, Nouvelle Héloïse, 1761*

▹ *Mario Cereghini illustrates the characteristics of different altitude zones in Costruire in Montagna*


5000 m.
M.Bianco 4810 m.
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1300
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1000
1000
ZONA DEI BOSCHI CEDUI
550
ZONA INFERIORE

mountain alone. He made it considerably high given his lack of experience before dying on the mountain. His body was discovered perfectly conserved by the cold, draped and equipped with second hand mountain equipment that had been abandoned by former expeditions in a monastery… the final words inscribed into his diary read "*Off again, gorgeous day!*"[22]

As the cult of the upper world spread, the accounts of the amazing beauty of the alps made it back to the plains and cities through photography, painting and literature. The benefits of the elements on the human mind and body have been widely praised; altitude, fresh air, sunlight… The seductive ideas of combined beauty and danger have been passed on from one story to another, and have drawn people to the mountains to see them, climb them and die for them. In a way we can say that mountains have had an inverted effect of gravitational attraction on our minds.

The mighty peaks and glaciers were very hard to describe to people who had never set their gaze upon the mountains. William Windham who was one of the first men to walk on the Mont Blanc glacier (also known as "*Mer de Glace*") later described it as an agitated sea, instantly frozen. Glaciers, like the mountains on which they repose, are a colossal machinery that are always "*on the eve of motion.*"[23] Glaciers move with incredibly strong power, producing many impressive rumbling and cracking sounds from deep within the ice.

Glaciers are the "*streams of time*"[24], testimonies of the past, millions of tons of snow compacted into ice over millennia, moving at an eternally slow pace. They have helped humans think about time differently; our ultra dynamic society is moving at a very fast pace which has placed us out of sync with nature, we have forgotten how to take our time. "*How strange is this wild urge for rapid locomotion seizing people of all nations at the same instant. 'The dead go swiftly'*

22. *Maurice Wilson, 1936*
23. *James David Forbes, Travels Through the Alps of Savoy, 1843*
24. *Robert Macfarlane, Mountains of the Mind, 2003 : p.103*

▹ *A crowd of people crossing the Mer de Glace in Chamonix, Zentralbibliothek Zürich*

says the ballad. Are we dead then? Or could this be some presentiment of the approaching doom of our planet, possessing us to multiply the means of communication so we may travel over its entire surface in the little time left to us?"[25]

And above the glaciers, standing with pride, are the majestic peaks upon which humans once set their gaze and from which they have never been able to look away. Projecting their wildest dreams towards the snowy summits. "*Now away we go towards the top. Many still, small voices are calling, 'come higher'.*"[26]

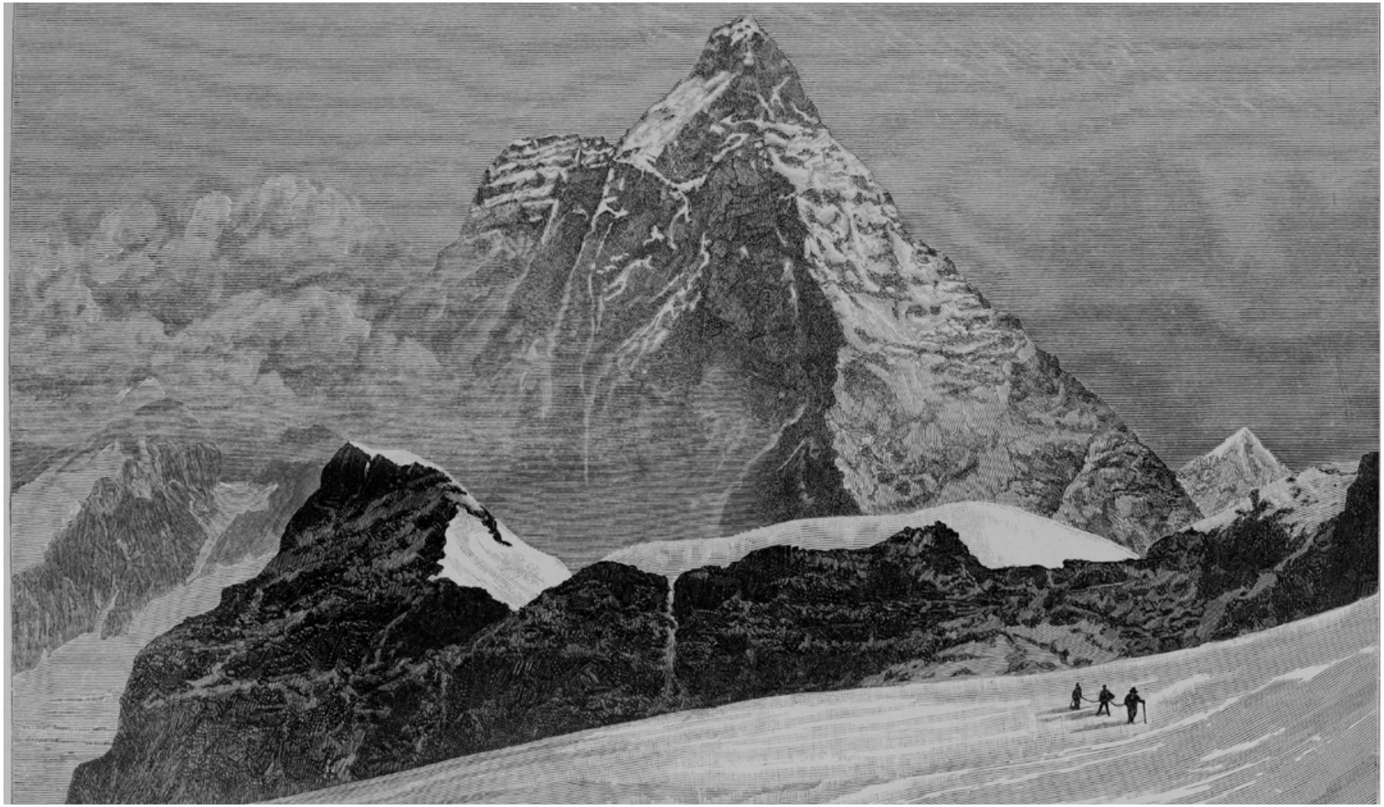
From the dawn of humanity, we have wanted to rise and grow, to seek the basic joy of leaping up from the earth. We are the only beings in this world that stand on our two feet, taking the tallest posture we can, and we have always found solace in vertical things. Our ambition is to excel and be superior in everything, to progress always further, always higher. In our minds, progress is associated with elevation. "*The urge to explore space – to go higher – is innate to the human mind*"[27]. Everything in a mountain seems to indicate a vertical elevation. In the summit we perceive a symbolic eulogy of effort and reward, "*to peak*" is to reach the highest point of an endeavor. By reaching the top of a mountain, we are rewarded with a sense of accomplishment.

Climbing a mountain is an allegory of success, the summit is the goal we want to achieve, the ascent is the challenge and the many hazards of the topography and climate are the struggles and achievements. To climb a mountain is, in a way, to conquer a problem, as useless as it may seem.

This sense of triumph is innate to every human being, but we are not all equal in physical

25. *Théophile Gauthier, 1884*
26. *John Muir, My First Summer in the Sierra,1911*
27. *Robert Macfarlane, Mountains of the Mind, 2003 : p.138*

▹ *Wooden engraving of the Matterhorn*



and mental capacities. The many technical innovations and heavy machinery of ascent such as funiculars and cable cars, that today enable anyone to reach a mountain top, are a testimony of this inner urge.

The drive we have to triumph, to reach the summit, is a very western phenomenon. The Tibetans and Nepalese who worship the great peaks don't even have a word in their language to say "*top*" of the mountain. Their gods are within the earth and landscape features and not necessarily above everything. To climb Everest was considered lunacy and blasphemy all together.

Not only are we obsessed with the sense of accomplishment in the action of climbing a mountain, but we are also amazed by the view. To see the world from above is to to see it anew, the same feeling will occur when looking down on the city we live in from the top of a skyscraper. The landscape we know resolves itself to alternative patterns and unexpected images, "*rivers become ribbons, lakes blades of silver, boulders specks of dust…*"[28]

Nowadays, this overhead view may make less of an impression, due to the contemporary media bombardment of images from above, but when this was first experienced it must have been a startling sight. For the first time, man got to experience what it was like to be above the clouds, looking down on the world below.

The higher the altitude, the wider our units of reference become, shifting our perception of the world. Instead of referring to landscape features, villages or communes, we can situate ourselves in relation to cantons and entire countries. At the top of the Dufourspitze, one can look south deep into Italy, to the north is Switzerland and Germany on the horizon where we can make out the curvature of the earth, and if we are looking towards France, behind us the

28. *Robert Macfarlane, Mountains of the Mind, 2003 : p.147*

▹ *Edward Whymper and his fellowship of climbers reach the top of the Matterhorn. Engraving by Gustave Doré, 1865*

Alps continue all the way into Austria. We become a panoptic, perceiving "*the vast swallowing distances of visual space.*"[29]

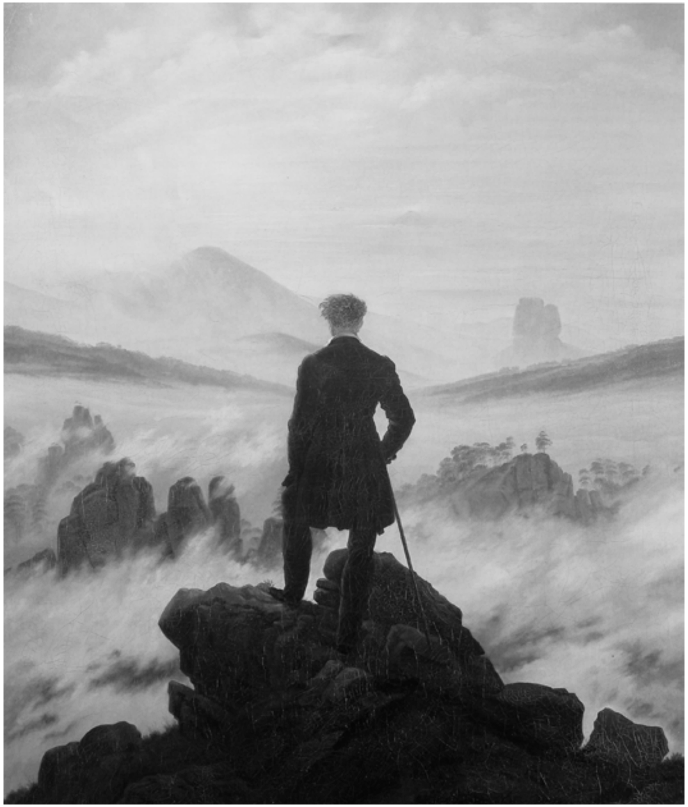
This can bring us power of self-awareness and at the same time make us feel utterly insignificant. "*The human paradox of altitude: that it both exalts the individual mind and evades it. Those who travel to mountains are half in love with themselves and half in love with oblivion.*"[30] Mountains bring us two distinct types of rewards: "*far-sight and insight, landscapes and mindscapes.*"[31]

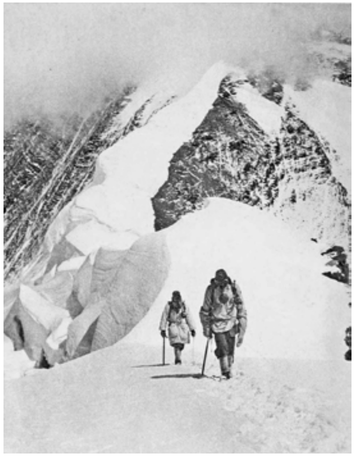
In David Caspar Friedrich's famous *Traveler Contemplating a Sea of Clouds* from 1818, we can see a perfect illustration of this romantic glorification of the individual, a crystallization of the concept of self-perception. Represented is the mountain-climbing visionary: the admirable and noble image of a man standing atop a mountain, which at the same time is a lonely experience of freedom and purification. For "*men are not made to be crowded together in ant-hills… the more they congregate the more they corrupt each other.*"[32]

Our attraction to the unknown has always moved us to make new discoveries. We have a frenetic desire to be the first to venture into the unexplored areas of the globe and to have those places forever associated with our names or nations. The unknown inflames the imagination and becomes "a *projection screen onto which a culture or an individual can throw their fears and aspirations.*"[33] Mountains are a place of infinite opportunity to fulfill our deeply entrenched dreams of priority and originality. Prior to the apparition of this individualistic desire, the conquest of the unknown was mainly due to economic and political reasons: the need for resources, money, territory and glory. As a result we now know the geography of the entire planet: through mapping we have made the world fit into units and distances. Places have acquired names which have made the stories about them easier to tell, a sort of acquisition

29, 30, 31, 33. *Robert Macfarlane, Mountains of the Mind, 2003 : pp.156, 157, 160, 175*
32. *Jean-Jacques Rousseau, Emile, 1762*

▹ *David Caspar Friedrich, Traveler Contemplating a Sea of Clouds, 1818*





of the landscape. And yet, this horizontal exploration left the vertical realm open to further exploration and discovery of truth.

In the mountaineering realm, the final frontier was Mount Everest, the highest mountain in the world and "*the greatest of all mountains of the mind.*"[34] Conquering Everest signaled the end of an era, once achieved, man had been to the highest point on earth. The modern day frontier has passed beyond the earthly landscape, our focus has extended to the unknowns of the cosmos, or the opposite direction from the atom.

More and more people are discovering a desire to experience the mountains, to leave the amnesia of our materialistic man-made world. Mountains trigger our sense of wonder about the simple marvels of nature and reshape our understanding of ourselves by forcing us to contemplate a world ruled by forces greater than we could ever conceive. Mountains show us our infinitesimal size, but open our minds to the infinite possibilities of our imagination.

34. *Robert Macfarlane, Mountains of the Mind, 2003 : p.225*

△ *Climbers on Everest in 1922*
▷ *Panorama taken on Mount Everest*

13. PANORAMA FROM KAMACHANGRI (21,300 FEET)

14. CAMP ON LHAKPA LA (22,500 FEET), CHANG LA, CHANGTSE AND HEAD OF EAST RONGBUK GLACIER

15. PANORAMA FROM PEAK NORTH OF ADVANCED BASE CAMP, KHARTA VALLEY

HIGH ALTITUDE ARCHITECTURE

MOUNTAINS & SPIRITUALITY

After analyzing man's internal drive to reach the highest summits, to push boundaries and expand his knowledge, we turn to the question of why he builds in such a desolated environment. Man has not only ventured in and out of the mountains, but in the long run humans have found ways to tame the incredible alpine landscape. We have built many different structures and spaces to accommodate our various activities in the mountains. It is interesting to contrast the Western cultural approach to the mountains with other civilization where humans have had a connection with the mountains that stretches further back in time. The mountains have often provoked fear, suspicion and awe, and so have often been perceived as the realm of the supernatural: the home of the gods, demons and other monsters, like the legendary Yeti. Nearly every human culture is based on some form of religion or spirituality, and this has had an important impact on the way we have perceived and approached mountains.

Throughout history, mountain hazards in all their forms have often been linked to a displeasure of the gods. Volcanic eruptions, earthquakes, storms, and lightening were considered to be signs of their wrath. The effects of vibrations, echoes, or sound amplification in the mountains must have scared those who were already living an intense experience. Before science explained the natural causes of altitude sickness, feelings of dizziness, shortness of breath and vomiting were automatically linked to spirits displeased by human trespassing on their hallowed grounds.

In many cultures, fear of the gods' wrath generated an extreme respect towards mountains, which have since long been considered sacred. Mountains don't only punish, they are also give life. We have long used their resources and landscape for our survival: from the peaks flow the waters which we drink and which enable us to irrigate our fields in order to cultivate food.

The many mountainous cultures of the earth have developed architectures that are intimately linked to their regions and local traditions, each one infinitely complex in itself. In many cases, architecture linked to a spiritual activity seems to be one of the reasons that has brought us to build higher in the mountains.

In the Andes, the Incas built many sacrificial altars for the gods high in the mountains to protect themselves against hazards or disease, and to ensure good crop yields. Ruins of religious sites and other settlements like Tiahuanaco or Machu Picchu are mind-blowing testimonies of such practices, enabling us to imagine the huge logistics that were necessary for the establishment and functioning of a civilization in such a remote place.

For the eastern civilizations in Japan, China, Tibet or India, mountains have long been adored and worshiped, and have been considered sacred for at least two thousand years before the birth of Christ. For example, in early Chinese culture, mountains were considered the embodiment of God: the rocks were his bones, the water his blood, the vegetation his hair and the clouds and mists his breath.[35] In Buddhism, Taoism or Hinduism, inanimate objects have spirits and souls, just like all animate creatures. Their gods have multiple faces and live within every element of the earth. Mountains, as dominant features of the landscape, are seen as sacred.

The Japanese venerate the mountains as symbols of strength and of the eternal. They practice a religion called "*Shinto,*" meaning "*way of the gods,*" and it bears witness to their respectful, comprehensive attitude towards the rough conditions and destructive forces of nature that can often occur in mountains. The famous Fujiyama is their holiest mountains and is climbed by thousands each year as a sacred pilgrimage. Therefore, no construction has been edified on

35. *Larry W. Price, Mountains and Man, 1986 : p.17*

△ *Inca Settlement of the Machu Picchu*
▹ *"A Mountain in the Snow" by Japanese artist Yukiguni Hiroshige, 1834*


近江八景之内
比良暮雪

its sacred slopes as it would be considered an injurious desecration. The Japanese built their architecture around the mountain, appreciating it from afar, in great contrast to the western indifference which resulted in construction on some of the highest summits of the Alps.

In the Himalayas, the mountains have been natural shrines since ancient times. Buddhist architectures like chortens are a representative image of the sacred Mt. Sneru, considered to be the center of the universe and the tangent connection point to the cosmos. Himalayan people have come to build in the highest places of the earth. The traditional architecture of the Himalayas is in very close communion with local materials and techniques of construction. Like in the Alps, local constructions take a form and materiality that is very specific to a region and tradition: the form responds to a function and is specifically linked to the materials that are available.[36] To imagine reproducing imitations of such architectures with modern techniques and materials would be absurd and empty of significance. Buddhist monasteries are among the highest architectures in the world. Tucked away in some of the most remote valleys of Nepal and Tibet, monks dedicate their lives to meditation in total isolation. In our analysis of western mountain architecture, this provides an interesting comparison of how religion and spirituality have generated different architectural attitudes in the mountain.

If we compare the mountain monastery to the mountain church, besides the obvious cultural differences in traditional building forms and materials, they seem to have a similar attitude towards the mountain. They are both placed at high altitude and in relative isolation. The fundamental difference is the spiritual attitude that they serve, which is a reflection of each civilization's culture. The monastery is home to Buddhist monks who seek a permanent communion with their inner-self while connected to the divinities present in the surrounding natural environment. These monks give up everything in order to remain in isolation, dedicating their

36. *Manfred Gerner, Architectures de l'Himalaya, 1987 : p.13*

△ *The Klimsenhorn chapel on Mt Pilatus in Lucern*
▷ *Key Gompa monastery in Himachal Pradesh, India*

entire body, mind and spirit to their religion. The spiritual function of the church is different: it is a temporary place for prayer, the home of God that we visit occasionally, depending on our habits and extra-religious activities.

In western culture, the mountain itself isn't sacred, but is a medium by which we are able to get closer to God. In the Bible, mountains were often the places where God chose to meet with his prophets. David said, "*I will lift mine eyes unto the hills, from whence cometh my help.*"[37] Moses received the Ten Commandments on Mount Sinai.[38] Abraham sacrificed his only son Isaac to Jehovah in the mountains of Moriah.[39] The first mountain-top architecture in Biblical history may well be Noah's ark which came to rest atop Mount Ararat after the great flood.[40] An other image of divinity related to mountains and architecture in our Classical heritage can be found in Greek mythology, in which the famous Mount Olympus in Thessaly was considered to be the home of the gods, with Zeus' majestic palace at the summit.

It is interesting to see how this may have affected our attitude towards constructing on the mountains. Westerners seem to have a bolder approach, thus daring to edify architectures sometimes on the very top of certain mountains. When we look at the Buddhist monasteries in the Himalaya, they are compact architectures, respectfully constructed in the valleys, on the bottom part of a slope flank or a smaller hill at the base of a massive mountain feature: The Key Gompa monastery in Himachal Pradesh is a nice example. The Churches and most certainly the Chapels in the Alps seek the higher altitude, being closer to God where the earth meets the heavens. Another testimony of this western religious attitude can be seen in the numerous crosses planted at the top of many mountain peaks as if they were antennas permitting a connection with God. Western indifference to disrespecting the mountain had allowed us to construct many different structures at high altitude that have no spiritual function whatsoever.

37. *Psalms, 121:1*
38. *Exodus 19, 20, 24*
39. *Genesis 22:2*
40. *Genesis 8:4*

△ *Sphinx hotel and observatory at the top of the Jungfraujoch*
▷ *Noahs Ark wrecked atop Mount Ararat by Lee Elfred*

During the Roman and Medieval times, the Alps were considered grotesque wastelands, and unnecessary obstacles to commerce and conquest. Nonetheless, they were traversed, but initially with great dread. During this time, many churches and hospices were constructed along the popular routes to provide shelter and places of prayer to travelers and pilgrims. During the 16th century, Swiss naturalist Conrad Gesner found a love of the mountains for their own sake. This led to the 18th and 19th century enthusiasm for mountain-going. The many high altitude structures we see today come from from the modern period in the Alps, when we discovered a scientific and economic interest, as well as a sense of sport brought by the English mountaineers. Only after we overcame out fear of the mountains and learned to appreciate the benefits of the high altitude environment did we begin to built in the mountains specifically for mountain-purposes.

Although western culture didn't consider mountains to be sacred, that does not mean that it didn't respect the landscape. Since the Alps are one of the most populated and tamed mountainous regions of the world, our architectural challenges are primarily directed towards a conscientious integration while balancing the preservation of the natural alpine environment with our economic reliance on the exploitation of alpine resources and potentials.

▹ *The Simplon Hospice*

THE TAMING OF THE ALPS

Nowadays, when we get the chance to admire the Alps from afar on a bright summer day with perfect visibility, we may get the impression of a totally untouched natural landscape. The eternally peaceful summits are still cladded in a floury sheet of white snow, and below the seemingly void rocky peaks, whose sometimes arid lunar aspect excludes any hope of finding a trace of life or economic activity, begins a perfect green canopy of pastures, prairies and forests that spread to the deepest valleys, punctuated by shiny tinkling surfaces of mountain lakes, rivers and streams. When we take a closer look, some details betray this idyllic image of a harmonious landscape barely touched by our civilization. The pleated glaciers surfaces turned to an ashy blackish aspect or or the milky bright blue color of some lakes that contrasts with the emerald limpidity of natural water basins indicate that man has set his mark on this territory.

By exploring the landscape, it becomes clear just how much humans have tamed and exploited different aspects of the alpine diversity with a range of technology and subtlety in architecture, for reasons of mobility, accommodation, energy production, leisure activities and more.

An interesting temporal starting point of intense economic activity in this geographical area is the opening of The Saint-Gothard road, the first transit line through the Swiss mountains, in the early 13th century. Many other passages through or over the Alps followed, and today Switzerland has 33 passes above 1500 meters, 13 which are situated on the border with Italy. Inevitably, this new ease of access to the mountains stimulated economic and architectural activity, which became highly technological over the last sixty years. In the middle of the 19th century the first alpine hotels were built, including the Monte Rosa in Zermatt in 1852, and the Hotel Victoria in Interlaken in 1853. In 1907, the first cable car was installed in Grindelwald, and in 1912 the first cog-train was inaugurated, which climbs up through the Eiger and

▹ *Historical road to the Gothard pass on the Tessin side*

under the Obers Irshmeer glacier, giving an effortless access to the heights of the Jungfraujoch at 3471 meters of altitude. These new interventions in the mountains gave birth to alpine tourism and enabled winter leisure activities like skiing and alpinism. The Swiss Alpine Club (CAS/SAC) was founded in 1863, and shortly after, Edward Whymper was the first to conquer the Matterhorn. This marked the beginning of mountain hut construction.[41]

Outdoor activities like alpinism have changed a lot with the development of the Alps: it isn't as unforgiving as it used to be due to the presence of cabins in proximity to the peaks and the possibility of being rescued by helicopter. Such factors reduce the risk and fear, but also take away a certain dimension of mountaineering. Not only has alpinism become "*safer*" but the spirit of conquest has been dimmed since everything has remotely been conquered. Nowadays such activities focus on performance, individual strength and skill, attempts at more technical routes, and solitary ascensions, and always at increasing speed. Ueli Steck is a perfect example of this new super mountain athlete. The Alps were often considered to be Europe's playground and they still are, but the rules of the game have changed. We have entered an age of conquest of performance, which is also valid for architecture.

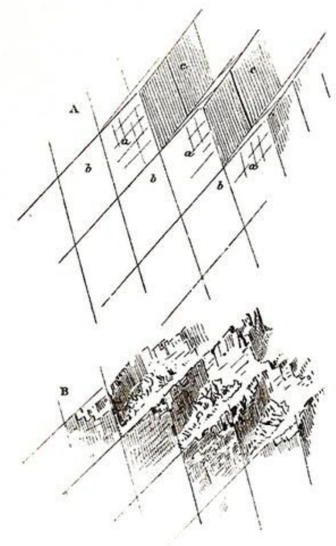
The development of the Alps changed the experience of an initially unique landscape. The people who seek mountains to distance themselves from their day-to-day routines are paradoxically confronted with infrastructure and buildings designed to bring them all the comforts they left behind in the city. Technical innovations have made life in the mountains easier and more accessible to everyone. As a side effect, this has reduced the magic atmosphere found in the simplicity of mountain living: to content oneself with the most basic of things, to find solace and satisfaction in overcoming small day-to-day challenges.

41. *Institut Ecoplan, Les Alpes Apprivoisées, 1991 : pp.20-21*

△ *The original Lenta hut, positioned against a boulder for extra protection*
▷ *The Aiguille du Midi in Chamonix*

Should the mountain be an experience that you need to earn? It can be argued that architecture in the high mountains is a sort of luxury. Nowadays, anyone can access some of the highest places in the Alps and experience the beauty of the mountains without exerting much effort. For some people, a mountain experience is only authentic when one has suffered for it. To a certain extent, only when the experience is truly earned can the mountains be fully appreciated and rewarding. There is no real pleasure without a little bit of pain.

△ ▷ *Historical funicular leading up to the Stanserhorn hotel*



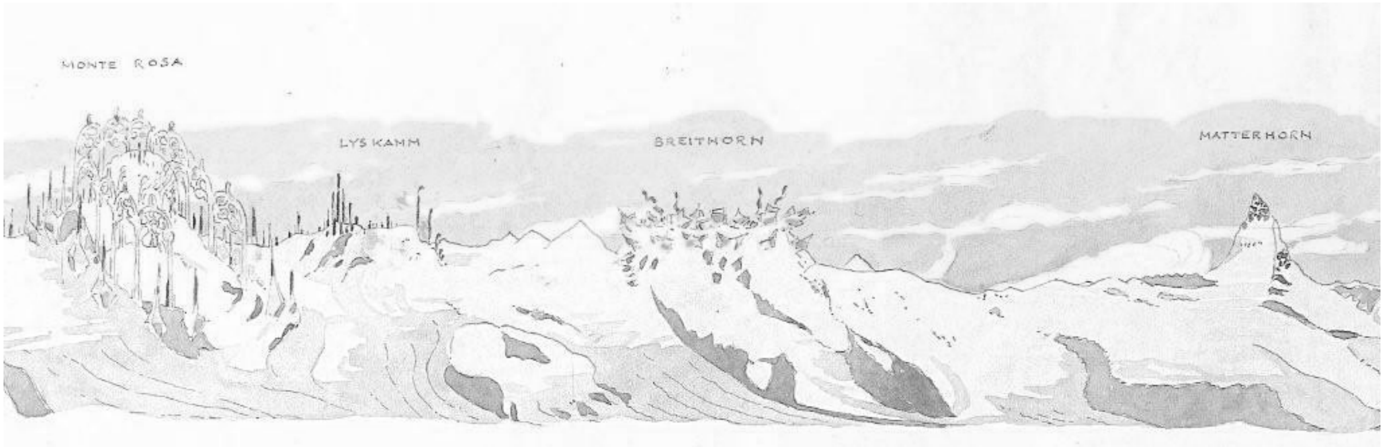
△ *Violet-le-Ducs diagram of the crystalline shape of mountains*
▷ *Bruno Taut, Alpine Architektur, 1919*

ARCHITECT DREAMS

The Alps provoke sentiments of awe and wonder among many modern architects. In contrast to cityscapes, the mountains provide architects and artists alike with a sense of freedom due to the absence of context, facilitating a pull-away from the constraints of urban rules. Only in 1919 did the expression "alpine architecture" appear when Bruno Taut drew up no less than thirty sketches of a utopian vision of architecture in the Alps. Taut's work was a response to the destruction and disgust triggered by the first world war as a message and an invitation of peace addressed to the populations of Europe. It was an invitation because the alpine architecture he imagined in the mountains would be edified by the same people that would inhabit it as a community, and doing so would liberate them form the harsh conditions of their day-to-day lives. This treatise condenses the architect's pacifist, communal and mythical ideas.

As discussed earlier, the Alps inspire people to reflect on the passage of time. The Alps are the crown of Europe, this is where Taut imagined and drew a series of pure crystalline architectural forms that occupy the summits and valleys of mountains. He was inspired by Violet-le-Duc's interpretation of the formation of the mountain peaks through the slow process of erosion. In his treatise *Decomposition of the Rombohedrals* Violet-le-Duc took an anatomic approach and attempted to reveal the physiognomy of the earth and the mountain landscape. He underlined the inherent crystalline shape of mountains and how this should be honestly applied to architecture. Bruno Taut perceived the mountain as a model for different crystalline forms of glass architecture that merge with the landscape in an ideal of beauty and transparency illustrated by his propositions in *Alpine Architecture*.

The slender structures Taut projected at the top of Monte Rosa, the Lyskamm, the Breithorn or on the slopes of the Matterhorn are all free-form, organic constructions. They resemble


MONTE ROSA
LYSKAMM
BREITHORN
MATTERHORN

cathedrals reaching towards the sky, inspired by the mountains that they want to embellish furthermore. Taut believes there is an internal relation between the building and the alpine space which distinguishes "*alpine architecture*" from "*architecture in the alps.*"[42] In 1919 he declared; "*Mighty is nature, eternally beautiful-eternally creative, in the atom like in the gigantic mountain. (…) To admire it blissfully, without taking action, is a sentimental attitude. Let's create with the mountain, and make her even more beautiful.*"[43]

Modern architecture has a new way of perceiving the mountain. The modern approach is no longer the traditional or vernacular, though some of the most involved architects in the Alps (such as Carlo Mollino) have been strongly inspired by the forms of the past. Building in the Alps must be approached in the long term as an inherent part of the history of perception of a culture, for the meaning of alpine architecture gets constantly requalified.[44]

Since the 18th century, the Alps have become and remain today a laboratory for many kinds of science, whether for the study of nature or the evolution of cultures and architecture. By observing modern architecture in the mountains, where global trends meet local traditions, we can discern some fundamental changes that have occurred in our culture.[45] Many have discussed the "*invention of the Alps*"in people's imagination through their discovery, description and conceptualization. This has allowed the mountains to become a landscape in which architecture occupies an inherent part of its perception. If we imagine a scene of architecture in the mountains, we picture a landscape where there seems to be a continuity between the "prettiness" of the tamed mid-alpine zone in the foreground, with traditional chalets and villages, and the sublime glaciers and towering mountain peaks in the background. This continuum between human and divine architectures seems to produce a single harmonious landscape that has become our typical mountain imagery. Traditional architectural forms have been inherent

42, 44. *Jon Mathieu, De l'Architecture dans les Alpes à l'Architecture Alpine, 2011 : pp.15 & 18*
43. *Bruno Taut, Alpine Architecture, 1919 : part 3, folio 12*
45. *Antonio De Rossi, Modern Alpine Architecture in Piedmont & Valle d'Aosta, 2006 : p.7*

△ *The new Tracuit hut near the Bishorn*
▷ *Traditional Mazots in Valais*

in our perception of the alpine landscape. The fabled chalet has forever been the immutable icon of mountain architecture, and its style has forged an identity for the Alps. The chalet isn't merely an object situated in the alpine background. It has become a component that makes up "*the invisible picture of the landscape. (…) These buildings are legitimized by reasons not pertaining to architecture but to the fields of art and morals, to the exaltation of mountains as places of authentic ancient civilizations.*"[46] The traditional forms are part of a whole, an organic component which characterizes the alpine landscape in its totality. They somehow bring a balance to the architectural legacy in the mountains, thus maintaining themselves as a complement to the new archetypes linked to the technical innovations of mankind which often contrast in form and materiality. These other forms contrast with our ideal imaginary of the mountain landscape and are sometimes be found at higher altitudes, producing new emotions and perceptions.

In the eve of mountaineering and winter sports, there were no purpose-built structures for such activities. Their pioneer practitioners were forced to lodge in preexisting buildings along the passage routes into the valleys and over the passes. Tourism, industry and science quickly followed the opening of major transit lines and railways through the Alps, bringing new forms of architecture to the mountains.

The Italian Alps were the testing ground of modern alpine architecture, particularly in Piemont and Val d'Aosta. Young architects from Turin such as Mollino, Cereghini, Figini, Pollini, Ponti or Sotsass, studied architecture with the Alps looming in the background. Two different attitudes were distinguishable among this group. On one hand, there was a substantial indifference towards the alpine context by the use an affirmed urban language. On the other hand, we witnessed an emergence of forms contaminated by the traditional architecture.

46. *Antonio De Rossi, Modern Alpine Architecture in Piedmont & Valle d'Aosta, 2006 : p.11)*

△ *Some early practitioners of skiing*
▷ *Modern alpine architecture by Franco Albini, Cervinia*

Adolf Loos in *Paroles dans le Vide* argued that architects should discard the picturesque, that it isn't because a new building is situated in a rural or alpine area that it needs to be picturesque. Nevertheless, the architect needs to understand the vernacular architecture and reason of its forms in relation to its function.

The development of skiing has given modern architects the opportunity to tackle the mountains, which has led to the birth to the modern ski-towns along with their small communities. Sestriere in Italy (1931) was probably one of the first ski cities in the Alps, reflecting a new place and a new image of the modern use of the mountains. The towers of Sistriere were forms of architecture never seen before in the Alps; pure geometrical shapes that proudly imposed themselves in contrast to the alpine landscape without seeking some pseudo reinvented traditional form. It is an all-in-one design of a ski-resort where everything was carefully planned and spatially organized. The slopes converge towards the buildings, turning it into a veritable alpine machine that works hand in hand with the mountain to optimize skiing. Sestriere set the standard for a total design of ski towns, reproduced in many French and some Swiss resorts. Unfortunately, over time, many individual holiday houses were built around these complexes, turning them into an urbanized fabric and therefore weakening the original project.

Carlo Mollino was one of the main figures in modern alpine architecture. In opposition to the modern trend, he was interested in deconstructing the vernacular buildings and the traditional architectural language of the mountain in order to invent a new alpine archetype. Mountain architecture is very specific to the place where it is built, answering specific needs and details, and seeking to blend in with its context, thus it is difficult to determine a new model for alpine architecture. For Mollino, mountains were both sentimental terrain and land for design experimentation. His architectures could not be reproduced in a plain or seaside

△ The Cable car leaves direclty from the Hotel Duchi complex in Sestriere
▷ Towers of Sestriere (also known as the Hotel Duchi) by Vittorio Bonadè Bottino


Sestriere m. 2035 - Panorama

context, the materials used are strictly of an alpine connotation and reference local craft. The sledge-lift in Lago Nero was described as a "*transfiguration of the mountain hutt no longer understood in folkloristic terms but in synthesis with the architecture of today.*"[47] According to Mario Cereghini, the formal question of alpine architecture cannot be separated from a reflection on how the mountain was used and perceived.[48] "*In the city, the aesthetic of buildings is judged by comparisons wanted by humans, in the mountains, man is comparing his work to the creation of the architect of the universe.*"[49]

47, 48. *Antonio De Rossi, Modern Alpine Architecture in Piedmont & Valle d'Aosta, 2006 : pp.45 & 56*
49. *Mario Cereghini, Costruire in Montagna, 1950*

▹ *Sledge lift del Lago Nero by Carlo Mollino*


Sauze d'Oulx (m. 1509) - Regione Lago Nero - Arrivo della Slittovia

THE GRAND ENTERPRISE

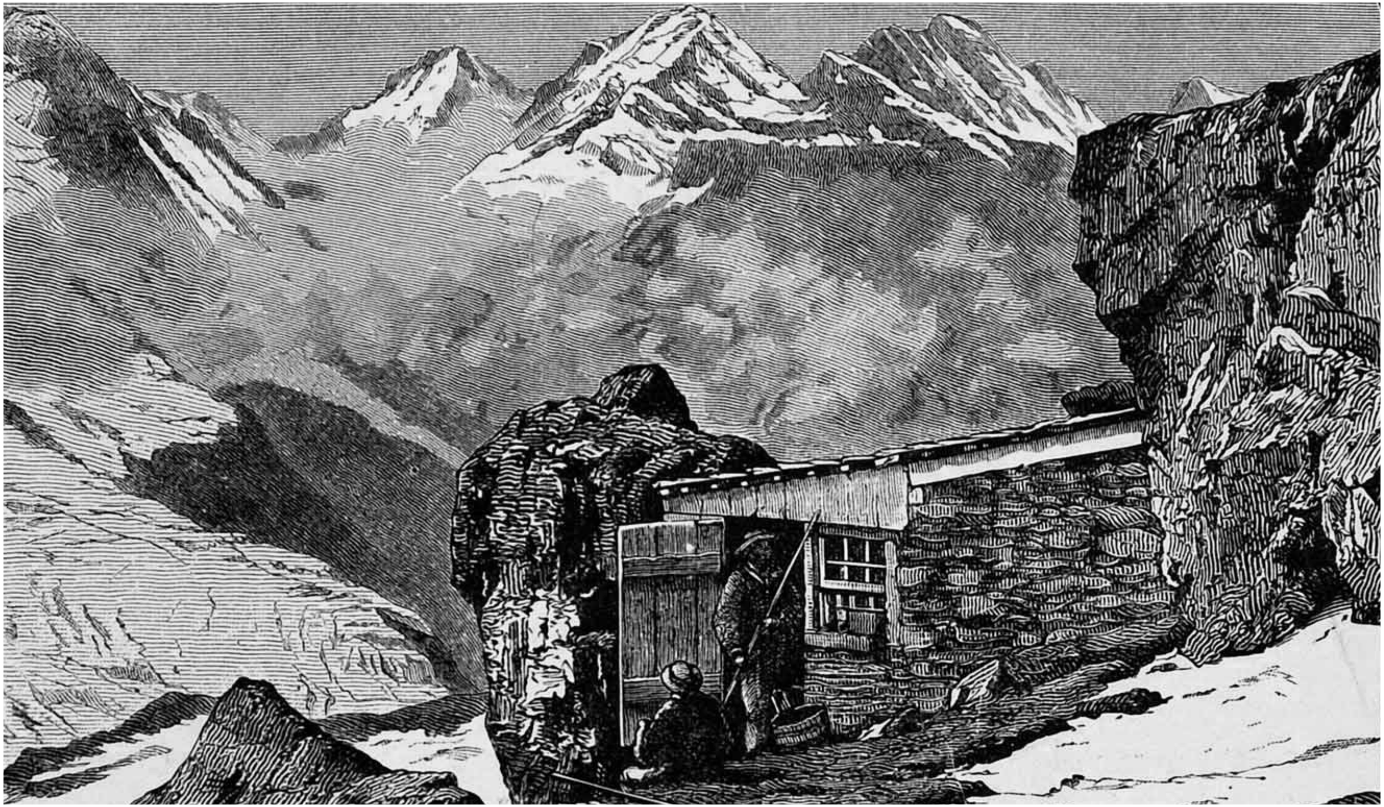
The evolution of alpine architecture in Switzerland is a sort of monument, in that it portrays a cultural image of the country between tradition and innovation. Over the course of time, men have built in the mountains in different ways and for different reasons. The evolution of the means available and used at a certain point in history has directly impacted the meaning of building architecture high in the mountains. Before the major technical innovations like the automobile, the cable car and finally the helicopter, the only way to accomplish this grand enterprise was to do it by means of human willpower and strength. We also believe there is a certain factor of reward and self-pride towards mountain construction that is different depending on the construction method.

Beyond the strictly agricultural constructions found at high altitude built by locals, some of the first high altitude architectures that appeared served the new trending pastime: mountaineering. The mountain cabins and huts that were edified by the alpine clubs in the 19th century were initially inspired by vernacular architecture's construction techniques, making use of local materials such as stones found on premises. These constructions would often use a natural feature as a protection and in order to economize building materials. For example, the Lenta hut was built against a huge boulder. Unfortunately, these first constructions did not last long due to their artisanal construction. The stone walls collapsed after a couple of seasons from exposure to high winds, the heavy pressure of yearly snowfall, and the effects of freeze and thaw within the walls. Therefore, the guides and alpinists, assisted by mules or donkeys, carried up more sustainable materials like wood or metallic panels for the roof that they then assembled on premises.[50]

50. *Daniel Anker, Helvetia Club 150 ans, 2013*

△ *7 alpinists proudly standing in front of the Arpitettaz hut that they built in 1953*
▷ *Wooden engraving of an early CAS mountain hut*

Another factor in mountain construction is the spirit of team work and pride accompanying the accomplishment of such an endeavor, whether it be the construction of a mountain hut,



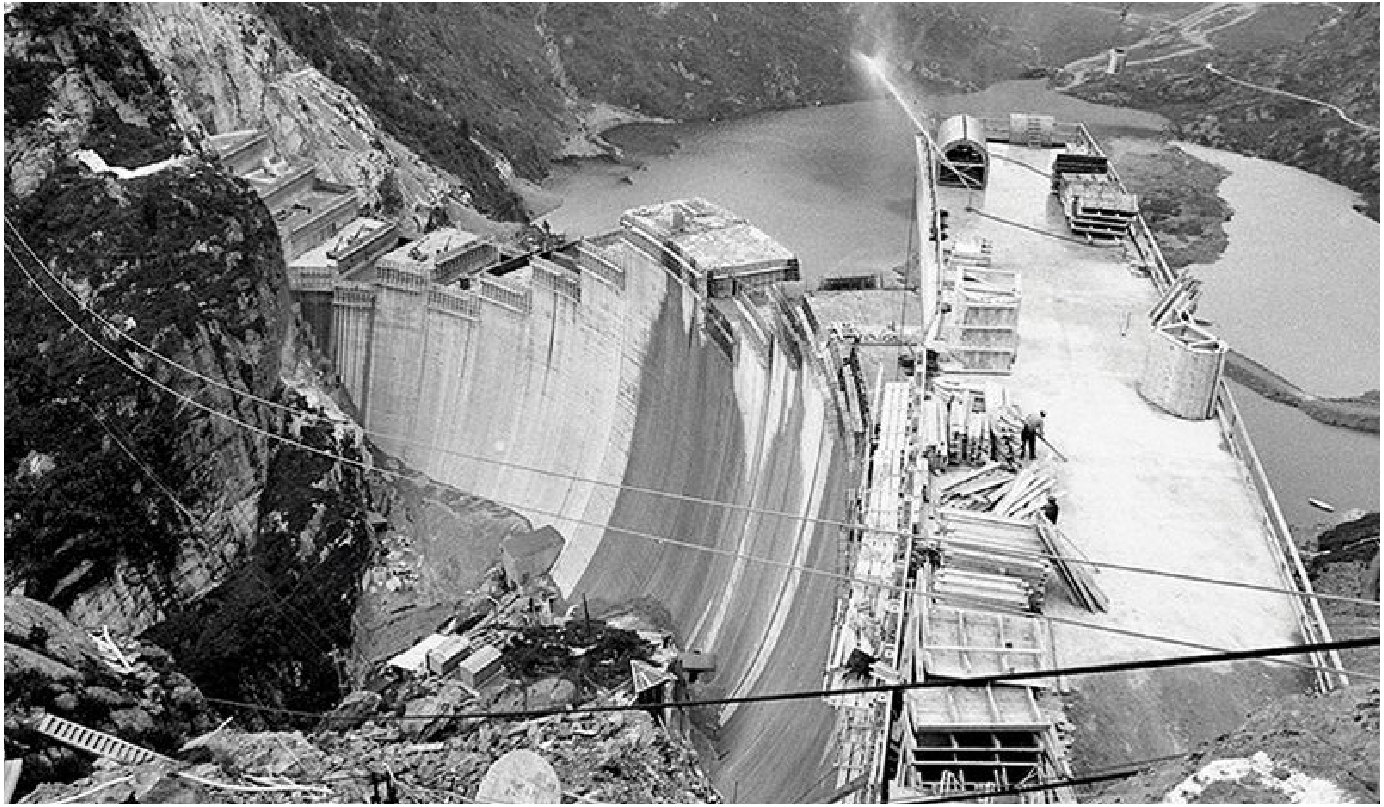
a ski resort, a dam, or a tunnel. There is always a sense of solidarity in such enterprises which, depending on the size of the project and the means of construction, raises different feelings of pride and forges group identity on a communal or national level. Of course, such emotions are often present within any type of architectural enterprise, but in light of what we have learned about mountains, construction at high altitude is an exceptionally rewarding experience.

Nowadays with helicopter transport, it is easy to bring large quantities of materials to high altitudes in order to construct a very high tech building with all the comfort required by contemporary society. The evolution of building technology has changed the way we personally feel about the effort we have provided towards an architectural enterprise in the mountains. Back in the 19th century, when people would carry materials up the mountain and build their own refuge, they must have felt strong personal pride in doing so. "*I did it*", "*I carried the heaviest piece.*" Feelings of accomplishment and ownership over a construction will are strongest if you invest yourself as much as possible. There is also great satisfaction in providing effort toward an object that will serve the greater good of a community. Many old pictures of workers posing in front of their newly accomplished alpine hut are a testimony of the spirit and atmosphere present back in those days.

The building of the Helvetic dams also required a great deal of effort. In the case of the Emosson dam in Valais, the workers were mostly of foreign nationality (predominantly Italian), and wouldn't be there if not for the very good pay they earned for working in very difficult conditions at an altitude of 1900 meters. A temporary industrial site was organized at the base of the dam with all the machinery required to produce the thousands of tons of concrete poured into the colossal structure. The worker's lodgings were situated a little further down in the valley, enabling shifting teams to labor day and night to realize this enterprise.[51] Today,

51. *RTS archives, Temps present, Genève, 6 septembre 1973*

△ *An alpinist carrying materials up the mountain*
▷ *The Emosson dam in construction*



the Swiss are extremely proud of their dams which are part of the nation's identity in terms of technical innovation, but this pride is symbolic and not due to personal effort.

In an other domain, modern sports and open-air alpine activities are more focused on the exaltation and contemplation of the individual than of the landscape, and architecture has been harnessed to this trend. An architecture may be proudly used as publicity for a resort or a region. In contrast, the vernacular mountain builder didn't construct to astonish his peers, but rather to meet his own basic need to survive in the mountain. The mountain man is proud and satisfied with his own way of doing things.

▹ *Some local people of the Alps*

THE SWISS FORTIFICATION

A particularly Swiss topic concerning architecture in the Alps which deserves mention is the era of construction of fortifications and bunkers in the mountains. The mountains in themselves already offered a natural protection, and were the ideal strategic terrain to establish defensive infrastructure.

Switzerland is a country of transit between its many neighbors from east to west and north to south. Politically and militarily, Switzerland would be the key to the control of Europe, and many have dreamed of conquering the country in order to do so. Napoleon declared that he would "*not tolerate any other influence in Switzerland but my own, even if it must cost me 100'000 men.*"[52] The tensions that reigned during the 19th century were pushing Europe towards the brink of war, and the Swiss sensed that measures needed to be taken, especially along the popular transit lines like the Gothard pass and tunnel.

General Guillaume Henri Dufour (1787-1875) saw the potential of defense within the mountains which already posed a natural complication to any attack. Mountain fortifications were also a symbol of the length the Swiss were willing to go to discourage invaders. The message was clear: Switzerland was ready to make sacrifices to insure its defense.[53] In 1828, the political decision was made to fortify the Alps and all the major transit lines trough the country. The evolution of technology of warfare had a big influence on the architecture of these fortifications. The materials used changed from wood, stone, and dirt to reinforced concrete and steel, enabling resistance against more powerful weapons. The first strongholds were placed above ground, but following the development of aviation and air force during the Second World War, later fortifications were built underground and out of sight.

The Second World War presented the greatest threat to Switzerland. The rapid advances of

52, 53. *Julius Rebord, Histoire de la Construction des Ouvrages Fortifiés Fédéraux, 1982 : pp.7 & 11*

▹ *A hidden bunker, photography by Leo Fabrizio*

the seemingly invincible Nazis into France in 1940 created fear that Swiss freedom was but temporary.[54] Nonetheless, the army was ready to defend the country, just as it had been back in 1828. Nazi tanks would have a hard time making progress in the mountains so the Swiss army made it their stronghold. They rapidly blasted tunnels and gallerias deep into the rock and equipped them for war, constantly in fear of the day that the Reich would turn on them. Ultimately, these efforts effectively discouraged the Nazis and the war never really made it to the mountains. The Nazis knew that "*everywhere man had created a passage for his roads, or his railroads, powerful explosives sleep at the heart of the mountains and in the pillars of the bridges.*"[55] They sensed that if they took the Alps, it would be at an extreme loss.

54, 55. *Col. Louis Couchepin, Le Réduit National, 1960 : pp.5 & 16*

▹ *This colossal bunk-bed can fit 120 men, at the heart of the mountain. The Scex fortress, St. Maurice*

PHENOMENOLOGY

"Phenomenology is the study of structures of consciousness as experienced from the first-person point of view. The central structure of an experience is its intentionality, its being directed toward something, as it is an experience of or about some object. (…) Literally, phenomenology is the study of "phenomena": appearances of things, or things as they appear in our experience, or the ways we experience things, thus the meanings things have in our experience. Phenomenology studies conscious experience as experienced from the subjective or first person point of view."[56]

There has always been something very powerful and shocking about a constructed object in the high mountains. This is intimately linked to the fact that the mountains are an impressive landscape, a place where man is minuscule and insignificant compared to the greatness of nature. This is something one needs to experience in person to understand: the mountains are monuments of nature, and architecture, no matter the size, cannot rival such geological features.

Nonetheless, an object constructed in the mountains is fascinating and even the most modest architecture can be perceived as a monumental because it is amplified by its setting. This is because such architectures are often isolated and left alone to interact with their surrounding natural topography. Such constructions are deprived of the cover of vegetation, which is limited at high altitude. It is interesting to think that the same objects placed in an urban context might lose all their strength, or even go unnoticed. Here, each piece of architecture becomes special, highlighted as if it were exposed in an art gallery. While some objects might use the mountain topography as a pedestal, others try to go unnoticed. The bunker is the extreme example of an object that has buried itself in order to see without being seen.

56. *Stanford Encyclopedi of Philosophy, Phenomenology, 2003, 2013, http://plato.stanford.edu/entries/phenomenology/ (Consulted November 2015)*

▹ *Ancient Mortuary for victims of avalanches . Grand St. Bernard*

▵ *Ventilation ducts on the St. Gothard pass designed by Rino Tami*
▹ *Tunnel ventilation duct , Grand St. Bernard*

In our minds mountains are a natural environment free of any civilization, so when we encounter architecture we are often surprised by its presence in such an unexpected place. The mere sight of human construction in the wild mountain landscape can trigger strong emotions. Many structures we see don't have an immediately perceptible purpose, so we might feel confused and fascinated by these sculptural objects we don't understand.

The materials used for mountain constructions need to be tough enough to resist the hash climate. Many constructions were made with brutal materials that seem shocking in the natural environment. Ancient buildings mainly used stone, mortar, and wood, while more recent objects and infrastructure use concrete. The combination of form and materiality determine an object's capacity to be integrated or to be in opposition to its context. The materials used also impact a building's durability and likelihood of becoming a ruin. Materiality speaks of the builders' respect and attitude towards architecture in the mountains.

The Alps are a developed place with a lot of new and old infrastructure. Unless one has a full knowledge of the activities in the Alps, some of the architectural objects will seem incomprehensible. For example, while driving up to the Saint Bernard pass, travelers may observe strange concrete structures. They resemble tall cylindrical stone wells that funnel out at the top and are crowned by a thick octagonal concrete roof supported by concrete columns. The whole structure is enclosed on two sides by structurally reinforced concrete walls that stretch as high as the whole edifice. Once we remember that the Saint Bernard tunnel linking Italy to Switzerland lies hundreds of meters below, it becomes clear that this construction is a ventilation duct ingeniously protected against rain, snowfall, and avalanches. Other fascinating and sculptural tunnel ventilation ducts designed by architect Rino Tami can be found over the Saint Gothard pass.

Not only are certain constructions strange, Some structures, like hydroelectric dams capture our attention due to their massive size. Dams are made of thousands of tons of concrete, carefully poured and smoothed out to produce a flawless surface capable of resisting unimaginable forces of pressure. The dam's force is the human mark upon the wild landscape, generating a perfect Euclidian line stretched across the totality of the alpine valley, a great wall. Such infrastructures amaze and frighten at the same time. They are a testimony of how far we have gone in our architectural conquest of the mountain.

Vernacular architectures related to ancient rural practices can also awaken our imagination. Our minds are transported back in time as we imagine these buildings' purposes and their means of construction back when the only way to do so was through human strength. These architectures tell stories of when life in the mountains was more challenging but also more simple, when a sense of accomplishment was the reward of an endeavor. They tell stories of when man toiled for his own survival and that of his family in the rough mountain environment.

The Alps and their architecture have emulated an interest in cultural background and heritage, but paradoxically they are also a place where imagination is without boundaries, liberated from the past, and where any individual may set his mind free.[57]

57. *Jean-Paul Guérin, Revue géographique alpine, 1989 : tome 77, n°1-3*

▹ *Dam of the Grande Dixence*

OBSOLESCENCE

Due to modern building technologies and ease of access to the mountains, present-day architects have a responsibility to intervene in the mountains without deteriorating their beauty. Should we even continue to build intensively in this environment? We believe there is an interesting opportunity to give a new meaning to existing structures that have been left behind or have become obsolete. There is a great variety of different types of obsolete architecture in the Alps: vestiges of our past activities that sometimes hold heritage value.

An obsolete or abandoned building is not only an unoccupied or useless structure, it is also an object that generates emotions. Our imagination is set in motion when we see obsolete architecture. We feel like we are contemplating the ghost of a place that used to be filled with life, or which proudly served some purpose. Benjamin Franklin once declared that the only certainty in life is death (and taxes). Haven't we often considered architecture to have a life and a soul? And therefore, like all living animate organisms, architecture will one day have to face death. This is an important consideration in alpine architecture, as the odds of a building being subject to obsolescence, decay, and ruin are greater than anywhere else. "*Life spent without any contemplation of death is a denial of life, since death is the logical and inevitable end for us all.*"[58]

Obsolescence can occur all at once or it can be a slow process. Whenever an artifact or piece of technology loses value, is a step closer towards obsolescence. Many social and political factors play a part in this phenomenon, be it the market or the evolution of technology, taste, trends and fashion. There are multiple and complex criteria for obsolescence. For architecture, one of the most important and inherent factors is the flexibility: flexible spaces, flexible building materials, and flexible equipment that can be easily replaced. By giving a building flexibility,

58. *James Stevens Curl, 1993*

▹ *Formerly abandonned hotel in Melch-see-Frutt*

the architect creates a longer lifespan for the structure, giving it a chance to survive in our "*age of obsolescence.*"[59] Flexibility isn't the only factor that insures longevity. The political economy of a region and many mountain-specific criteria are also taken into consideration.

"*An obsolete building is in place but out of time.*"[60] Obsolete architecture cannot simply be ignored and bypassed, although it is easier to do so in the mountains. Buildings tenaciously remain where they has always been; they cannot be put away in a closet like out-of-fashion clothing. "*Obduracy-in-architecture*"[61] forces us to consider obsolete architecture and either tolerate it or do something about it.

After obsolescence often comes decay and ruin. Decay in architecture is a testimony of a life well lived, or evidence that obsolescence has already occurred. The ruined building has always provoked fascination, an "*aesthetic pleasure is its present appearance… morbid pleasure in decay… righteous pleasure in retribution… mystical pleasure in the destruction of all things mortal and the eternity of God… egoistic satisfaction in surviving… masochistic joy in a common destruction.*"[62] We take a certain perverse pleasure in the ruin, perhaps observing its state of decay is similar to approaching something dangerous and scary. The ruin is more than a past architecture lingering in the present. It is a combination of obsolescence and decay; it has been subject to the "*injuries of time.*"[63] Facing the ruin, we are confronted with the temporal reality of materials. A ruin in the mountains makes us wonder why it was built, why it was abandoned, and what potential it carries for the future. An abandoned or ruined building is "*rarely received merely in and of itself, for itself. It usually carries with it that which is not – an absence, a loss, a hope, an ideal.*"[64] It inspires stories of the past and dreams of what is to come, in a sense completing the circle of life.[65]

59. *Daniel Abrahamson, 2009*
60, 61, 64, 65. *S. Cairns & J.M. Jacobs, Buildings Must Die, 2014 : pp.103, 111, 168 & 171.*
62. *Rose Mucaulay, The Pleasure of Ruins, 1953*
63. *John Ruskin, 1857*

▹ *Ruins in Rauris, Austria*

CATEGORIZATION

GROUND RULES

In this chapter, we will go over the different criteria we analyzed in order to create our catalog. We are mainly going to describe the different categories used in the second part of this book. These categories are inspired by the content in the previous chapters and based on our research and observation of obsolete high altitude architecture.

Our analysis is not to try and determine whether it is good or bad to build in the mountains even though in the end it may raise some questions on the matter. Instead we want to focus on the architectural properties of constructed objects at high altitude by proposing a list of categories that help define their alpine qualities. We want to make these categories as objective as possible with factual criteria about the architecture and the phenomenology so that one may use this work as a toolbox, and apply its principles to almost any type of mountain architecture.

We are voluntarily leaving out the vernacular mountain architecture. These objects belong to local traditions and are often linked to an agricultural activity. This is an extremely profound and complex subject engraved in each regions' cultural heritage. These constructions have been around for centuries, they are a largely accepted and integrated part of the landscape and bear witness to our ancestral presence in the Alps. Since this work concentrates on the obsolescence of mountain constructions it would be very hard to determine whether a barn in the canton of Uri in Switzerland, is obsolete or not. These constructions are visually as integrated as the boulders at the bottom of a valley and will forever be a contemplative delight.

We are interested in the more isolated objects that have a direct and singular impact on their environment and landscape. And of course we have decided to talk about high altitude architecture, mainly concentrating on buildings above the limit of 1700 meters (which is the altitude at which vegetation begins to thin out and disappear).

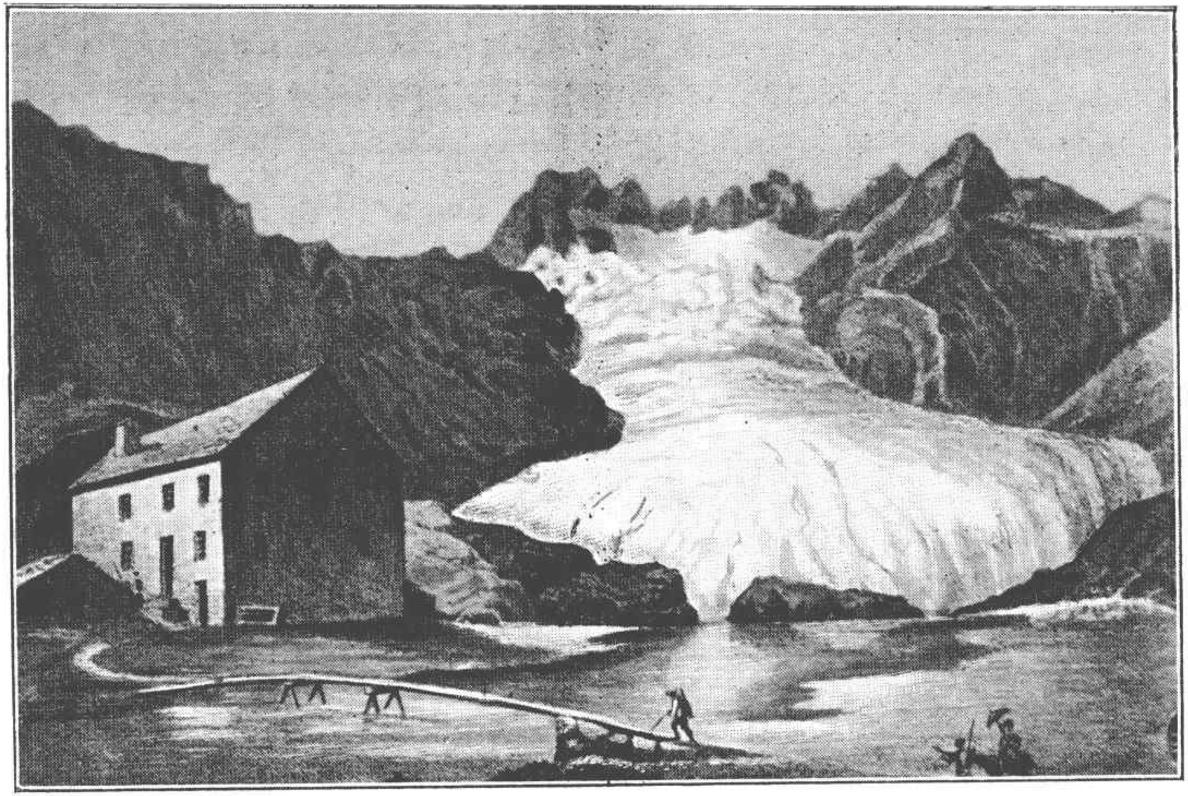
There are precise types of human activities that occur at high altitude in the Alps: Economical activities such as tourism and leisure practices, industrial activities (mainly energy production) and activities linked to mobility, military defense or scientific research.

The knowledge of these activities helped us determine the Functions of the various constructed objects above 1700 meters we are interested in. For lack of official documentation on the presence and actual usage frequency of the various obsolete mountain constructions, our research consisted in reaching out to more than 400 Swiss communes who own land above 1700 meters for information concerning unused or outdated buildings within their jurisdiction. This gave us a first insight on which types of constructions were majorly in the obsolete category, permitting us to then contact various organizations for more information and thus giving us the big picture of the functions we will be talking about.

Once we have stated that each object has a function we determined two general categories that will help understand the relation between object and mountain: The Topography and the Architectonics. Thanks to this we have then deconstructed the phenomenological impressions: "*View of*" and "*View from*" the object.

In the last category, we have analyzed the Obsolescence & Potential of these buildings. It is interesting to see that the criteria that causes obsolescence in a building also speaks of its potential to be reused.

▹ *Wooden engraving of the first hotel in Gletsch, near the Rhone Glacier*



FUNCTION

We have decided to analyze constructions that are part of the four following categories of function: Accommodation, Technical infrastructure, Research stations and Defense infrastructure. These typologies aren't an exhaustive list of building functions found at high altitude, but are directly linked to our research on obsolete structures in the mountains. The obsolete objects in our catalog belong to these four precise functions. (As a counter-example, we haven't included "*mountain restaurants,*" which to our knowledge are all fully active nowadays and therefore presenting less of an interest in our analysis).

Accommodation

With the development of tourism and an ever growing interest to explore the Alps, many different buildings were edified to provide accomodation to the flow of mountain-goers. These structures sometimes find place in really remote areas, enabling people to live closer to the summits for a temporary or indefinite period of time.

With the opening of mountain passes, many hospices were placed in these important locations as a sort of supplying stopover point for the people attempting to cross the mountains. The etymology of the word "*hospice*" designates care and hospitality, these accommodations were often run by religious Monks who used to look after pilgrims and travelers.

The most prestigious type of accommodations are the famous Swiss mountain hotels that were built from the middle of the 19th century. These are sizable but refined constructions that have a very strong visual impact. Many hotels have since been surrounded by an urban development that they sometimes even initiated, being the first edifices in some regions of altitude. Other hotels are currently still isolated higher up in the mountains, acting as refuges which offer a contemplative proximity to the majestic mountain peaks and glaciers. And even higher, after having left behind all roads and villages, there are still many cabins and huts that are used by walkers and alpinists, drawing people closer and closer to the snowy summits.

Technical Infrastructure

The diversity of resources that the Alps have to offer have not been neglected by humans. We have perceived the opportunity of an immense economical benefit and as a result, we have built many structures and facilities (buildings, roads, power supplies…etc) needed for the operation of our activities

As mentioned above, building in the mountains was primarily rendered possible by the opening of various transit lines under and over the Alps: roads, tunnels and mountain passes. Previously, man used to avoid the mountains. He would choose to take the long detour around them in order to stay out of danger. Nowadays, these important roads are supplied by many different infrastructure which enables their proper functioning, protection and maintenance, creating a comfortable passage through the Alps.

Natural mountain water is a resource that is highly exploited for the production of energy: hydroelectric infrastructures such as dams produce 60% of Switzerlands' electricity.[66] The first concrete dam was put in service in 1898 in Lauterbrunnen.[67] Many of these gigantic installations have since colonized the numerous alpine valleys. This is a high tech industry which insures energy for the country and creates specialized engineers that are craved throughout the world.

66. *Office Fédéral de la Statistique, www.bfe.admin.ch*
67. *Institut Ecoplan, Les Alpes Apprivoisées, 1991 : p.69*

Telecommunication and meteorological infrastructures have also made their way to the high altitude, which offers the optimal situation for measuring the climate and sanding long-range transmissions throughout the Swiss territory. These installations are either freestanding structures or they can be grafted to other constructions such as restaurants of altitude or cable car stations.

Last and most importantly in this category are all the infrastructures linked to mountain leisure sports which are mainly cable cars and ski lifts. Tourism itself has become one of Switzerlands' major economical inputs in which mechanical lifts play an essential role. Thanks to this technology we have almost reached the zenith of our capacity to conquer new heights, creating a collective and effortless transport system that can access the steepest and most extreme mountain tops.

Research

Switzerland is one of the most scientifically advanced societies in the world, famous for its precision and meticulous manners, capacity for innovation, quality of scientific research institutions, and company spending on research and development.[68]

In certain domains, science has also made its way to the top of the mountains. The high altitude is the ideal place to conduct research studies on the climate and mountain hazards, to observe the sky and measure light pollution or study the influences of altitude on the human body.

68. *uk.businessinsider.com*

Defense

This is a typically Swiss category which is profoundly anchored to the history of the First & Second World War. Switzerland is situated at the heart of Europe and surrounded by many potential "*enemies*". Therefore, it is a certain sense of paranoia that drove the Swiss Army to take countless military measures in order to assure the defense of the country. We have built more than 15'000 bunkers and fortresses throughout the territory, many of which are located in the mountains that offer the perfect strategic position in case of an invasion.

These fortifications have various different forms and usage of materials depending on their date of construction. Not only are there all the buildings that were designed for fighting, but we can also find military accomodations and other technical installations in the high mountains.

ECO FOOTPRINT

With which materials was an object constructed? Were the materials of local origin or were they imported? With which technical means was an enterprise achieved? Were the materials transported up the mountain by foot or with a helicopter? This is a difficult category to quantify due to the precise data we would need to collect concerning each building, but it is possible to get a general impression by observing their characteristics.

Some constructions may generate a certain territorial impact like the need for access roads.In the case of winter sport lifts, we can take into consideration the remodeling of the landscape for the ski slopes. Dams need high voltage cables and extra infrastructure for the transmission of electricity and so on.

Ecological footprint

With our collection of information we are able to give a hypothetic response to the criteria of environmental impact. We analyzed pictures of buildings in search of materiality indications, on whether local or imported elements were used. The size gives us an idea of which quantity of materials was needed, of the number of trips that were required. The date of construction tells us what type of technology that was in possession of man back in the days in terms of transportation. Finally, the observation of the landscape in relation to the building's purpose will help us determin its impact on the landscape, whether it is an independent building or if it requires and generates various infrastructures to enable its proper functioning.

▹ *Workers on the Mont d'Or tunnel in Vallorbe*

ARCHITECTONICS

The following categories are related to the specific architectonics of a given object. These categories are independent from the alpine locality and could be applied to any building in any geological region. Nonetheless, these characteristics in addition to the mountain landscape will intimately influence our perception.

Size

Size matters, especially in the mountains where constructions are often isolated, where the available flat surface to build is restricted. The bigger the object the harder it becomes to construct and it's more likely that its impact on the landscape will be stronger. But how do we qualify the size of an object? Mathematically by calculating the volume, square meters, but it is extremely difficult to be sure of these quantities. It has been thanks to the drawings and pictures we have used to illustrate our catalog that the labels S, M, L & XL have been hypothetically applied to the objects, based on their initial function, apparent capacity and volume.

Form

Intimately linked to the size factor, we have defined three categories of form patterns that a building may adopt in the mountain landscape. *The Dot*: qualifying smaller objects that do not spread over a consequent surface of terrain. *The Big Box*: this helps us describe the more massive buildings which are condensed into a compact volume and composed of three or more storeys (which instantly gives them more importance). *The Line*: as the name indicates, some structures have a consequent horizontal stretch, and thereby draw a line in the landscape. It may occur that a building is a combination of two of the above types.

Materiality

In the context of mountain architecture, the materiality has a very important influence on the alpine "*look*" of a building. Some objects seem relatively well integrated to a mountain region depending on their use of local materials and ability to imitate traditional shapes while others produce a strong visual contrast with their surrounding landscape. Some of the more recent buildings have a certain consciousness about their integration, thus combining local and imported materials which produces a mixed materiality. Observation of these characteristics will also help determine the eco footprint of a building.

TOPOGRAPHY

Now that we have defined the types of objects we are going to study, that we have proposed multiple ways to categorize them architecturally, we are going to be able to pin point their phenomenological power in relation to an alpine landscape. First off we have defined different contexts in which an object may position itself in the topography.

Underground

This is a particular topographic category where the actual situation in the terrain doesn't have any considerable influence, this especially applies to military bunkers and fortresses which seek the protection and to be out of sight, so they are developed under the mountain.

Valley

Many objects are situated in the alpine valleys which are the first and most accessible places, situated in proximity to infrastructures of mobility. These buildings often dialog with massive mountains on either side. This layout can confer a certain force to the object because it still keeps a relatively consequent distance with the higher alpine landscape and creates an impressive depth of field perception between object in the foreground and the towering mountain peaks in the background. The intensity of this effect naturally depends on the size and form of the object in question and the angle at which we observe it.

High Plateau

When the mountain landscape flattens out for a considerable distance we are all of a sudden placed upon a *high plateau*. Space seems to expand and there is on longer that feeling of oppression from a nearby mountain face or cliff, it may feel like we are "*on the moon.*" It also seems safer, less exposed, providing a feeling we are used to when down in the vastness of the plains.

Pass

The *pass* is a similar situation to the *valley*, but enhanced. Passes are particular places, the highest point form where everything in the valley slopes back down to the plain. The view is greater for we can see on either side. When travelling in the mountains, to reach the pass is an achievement. When one is seeking to cross the mountains, the pass is the peak of the endeavor, the culminating point of effort. Many buildings have been built in this particular topographic area to provide shelter for travelers.

Face

In opposition to the *valley* situation, an object located on the sloping side of a mountain face will tend to be more discrete because of it is in close proximity with the background, its tendency to blend in with the mountain is greater. These objects can nonetheless give an impressive feeling depending on the angle we observe them from.

Shoulder

A shoulder is the point at which a steep slope may descend to and from a plateau or highland area. It is similar to the *face* situation although, instead of having a building that is merely holding onto the steep mountain side, the topography produces a considerable flat area which facilitates the building implantation.

Ridge

This situation is not necessarily at the highest point of a mountain but definitely in an intense topographic location, being on a continuous crest which gives the view on at least two sides of a mountain. The dominance of the object in the landscape is considerably strong and the point of view from the ridge can produce an impressive effect of vertigo because of steep terrain on either side while keeping the possibility to create a certain distance with the building which might not occur on a summit.

Summit

Finally, some constructions are placed at the very top of a mountain peak, at the highest point of a hill or a random topographic erection. These objects use the terrain as a pedestal, elevating themselves with pride which gives them a certain dominance over the rest of the landscape.

▹ *Road gallery on the Simplon pass*

PHENOMENOLOGY POINTS

"View from"

As described above, there are certain perceptual factors that are directly linked to the position of a building on the mountain: points of view, to and from the object, are highly influenced by the topographic context and the altitude.

Panorama, & Altitude

The point of view from the building can be objectively determined: the topographic implantation will help determine what panoramic radius is available form a given location and of course the higher the object, the less obstructed the view becomes. The view from the bottom of a valley looking towards the distant peaks is incredibly breathtaking, but objectively, the view from the top of those peaks is even more impressive, it's the ultimate view.

"View of"

On the other hand, the point of view we have of an object is extremely variable, we could be approaching it from any angle, from below or from above, which will naturally change our perception of the building and the depth of field in relation to the background.

Buildings edified in different areas of the mountains will have a more or less strong impact on the landscape, depending on their size, form and use of materials that determines their alpine "*look*". Some objects may be a shocking sight in the alpine environment, others may go unnoticed.

Landmark

This is an object that is easily seen and recognized from a distance, especially one that enables someone to establish their location. While exploring the high altitude areas there are many constructions we just cannot miss, hydroelectric dams are one good example. Nonetheless, a big construction can easily disappear in a mountainous landscape, our view of it may be obstructed by some natural feature. This can produce some intense surprises when the landscape suddenly opens up to reveal a consequent construction.

Passive

In many cases objects have a passive impact on the landscape, they are neither trying to stand out nor are they trying to hide. The visual range to and from an alpine building can often be pretty small. This category applies to smaller objects which are therefore not as visible at a distance. Note to the previous category, even a small object can become a landmark depending on it's topographic position.

"Tip of the Iceberg"

A small perceptible part of a much larger "*problem*". This situation applies mainly to defense constructions which seek the underground to ensure their good protection, other technical infrastructures may be in the same category. In this case a part of the construction is still visible above ground, this *"tip of the iceberg"* could very well be a landmark or a passive object, but the real functions and spaces are dissimulated under the mountain.

Camouflaged

Yet again, this situation applies mainly to defense constructions that will take the shape and tint of their alpine setting to blend in with their surroundings and go unnoticed. Their purpose is to see without being seen. These objects are objectively still visible but by their misleading materiality we may mistake them for some natural feature.

An interesting reference for this is the duck shed theorized by Robert Venturi: "*the duck is the sign*", here "*the building is the rock*". Nonetheless, in the case of Venturi the duck attracts attention and is the direct image of its function whereas the military bunker seeks the opposite effect. Sometimes the military bunker is disguised as a typical mountain architecture which is also a type of camouflage.

Invisible

This is the case combination of the two previous categories, the object is not apparent, it is below the ground and its entry and links with the surface are dissimulated or camouflaged making it totally hidden.

▹ *Old Bunker somewhere in Uri*

OBSOLESCENCE & POTENTIAL

In the case of architecture, obsolescence describes the state of being that occurs when a construction is no longer wanted or no longer fit to satisfy a certain program even though it might be in perfect condition. It may occur because the program for which it was destined itself became obsolete, therefore leaving an orphan construction that lost all purpose. Or maybe the construction is at fault, not fitting the technical or spatial requirements of it's initial program who's needs have evolved. In more extreme scenarios, the deterioration of certain constructions has forced their occupants to abandon the premises, leaving behind them a ruin.

Obsolescence can also be time sensitive. A construction can be used or inhabited during a certain period of time and closed for the rest of the year due to external influences like an extreme climate in winter. Obsolescence can also be "*future*" and predictable, if we pay attention to the changes undergoing in our society, we could hypothesize on which constructions might become outdated in the near future.

In this ultimate category we define what criteria qualifies the level of obsolescence of a high-altitude architecture and the multiple reasons that may result in it being unused. These criteria are linked to the categories of function, topography and architectonics of each object and together with the phenomenological analysis will help identify their potentialities for a future project. For this, we attempt to answer in order the questions of the *when? how?* and *what?* The different criteria of obsolescence will help us understand *when* a project can be done. Is it time sensitive, can it only be temporary, or can it be done right away? Then comes the question of how do we overcome all the challenges of the mountain: climate, acessibility and so on. And finally, by observing the actual properties of the building and its location, we will have a better understanding of *what* is possible.

Economic development

As we described at the beginning of this analysis, the functions of these buildings are linked to different human activities in the mountains. It is important to observe a regions' economic development in the domains of tourism, industry, research and so on. Some regions may have a dynamic economic development, which creates more possibilities with higher financial prospects, making it a more relevant area for a new project. If a region has a static or even backtracking development this can explain the obsolescence of certain structures which have seen their activity disappear in that area.

Function obsolescence

The most obvious reason for considering a building obsolete is whether its function is still relevant nowadays or not. Our society has gone through many politico-economic, social and technological changes over the past decades which may result in the obsolescence of certain mountain buildings. Does a construction still satisfy the programmatic, spatial and technological requirements it was originally designed for? It might also be possible to predict the future obsolescence of an alpine architecture, due to functional or technological reasons. Per example: all the Swisscom antennas might soon be outdated since the company wants to upgrade its infrastructures to operate with optic fiber.

The temporal frequency at which an alpine architecture is used can objectively help define its level of obsolescence. Is a building completely abandoned and therefore never used (0 days per year), or is it related to a seasonable activity influenced by the climate condition which means that it may be used for a couple of months, leaving it unoccupied for the rest of the year?

This primarily answers the potential of *when*, defining whether an object is directly available for a project or if it is temporarily vacant. It also has a repercussion on the *how* and the *what* of a project: is it feasible to imagine a whole new function or a temporary complementary program to the existing infrastructure.

The obsolescence may be due to the existing technology on premises, in some cases, it might be that the technical infrastructures on which a building's function depends are old and outdated. In order to bring them back to the standards and renew them, it may involve serious financial means, resulting in their abandonment. On the other hand, if the function is the cause of obsolescence, the technical installations left behind might still be in perfect working condition which adds potential.

Climate influence

The weather and climate in the mountains are often very extreme, especially at a higher altitude generating complications for the accessibility and functioning of certain buildings which can result in a temporary vacancy during the winter. In some regions we may experience strong winds, clouds or fog and heavy snowfall even in the summer season. The roughness of the climate conditions is evidently linked to the topographic location and the altitude.

The emplacement of an object in the topography might make it more or less exposed to natural hazards such as strong winds, floods, avalanches and landslides. Many complex factors of the mountain environment are to take into consideration, terrain features such as couloirs, convex or concave slopes, orientation, proximity to certain features such as rivers or cliffs… Altitude sickness is a considerable hazard as well, knowing the the human body will have a difficult time getting accustomed to higher grounds. In some cases, it is interesting to see how some of these buildings have protected themselves against natural risks by using the topography as a shield or with an architectural solution (per example by building massive walls towards the slope at an angle to deflect an eventual avalanche).

This influences *when* for seasonable reasons followed by *how* and *what* if a new project is destined to be operational all year long.

Accessibility

This factor is very important regarding an object situated in the mountains which may be in a considerably remote location at high altitude, making it very hard to access. Few are the constructions that benefit from a quality road access all year round. In some cases, the only way to access these buildings is to go by foot, which can become an expedition depending on the distance and altitude difference separating it from the closest road. In this case, cable car systems present a high potential to solve the problem of a difficult accessibility.

This greatly influences the *how* and the *what*: how do we make a project work in terms of accessibility, of construction and exploitation? It will raise questions on what type of function is actually compatible.

Level of deterioration

Especially in the case of abandoned structures that have not received any attention for many years, the current state of their structure and installations may be seriously affected, decayed by negligence and harsh climatological conditions. Some objects may not be reusable, which questions whether it should be taken down to give the mountain back it's natural silhouette, should it be replaced by a new building and function or should it be left as a ruin?

How is a future project going to deal with a deteriorated structure? Leading to *what,* depending on the level of decay, it may be easier to decide to destroy some existing features to accommodate a new function.

Flexibility

The more capable a building is to be changed or adjusted to meet particular and varied needs the higher the potential. The flexibility of spaces and infrastructures of a building has a great influence on its potential reuse for a different program and function. The more complex and specific the object, the more difficult it becomes to imagine an alternate function within it's existing structure. Capacity and heritage value also influence the flexibility of an object to be reused.

Capacity responds to flexibility in volumetric terms, influencing yet again the type of program that is feasible within a given object: how many people can be hosted by a certain architecture.

Some buildings have been passed down form previous generations bearing a strong heritage value related to the cultural and traditional history of a region or the country, which is a greater challenge when considering the reuse or re-affectation of such an object. On and other this could be a positive factor, if the general envy is to preserve and give a new life to a construction of relative historical importance.

▹ *Abandonned Sanatorium in Agra, Tessin*

CONCLUSION & BIBLIOGRAPHY

CONCLUSION

Architecture in the Alps is extremely varied and takes upon many different forms. It can seem to be the result of impulsive and delirious ambitions, where architects and builders alike weren't constrained by the normal rules that apply to architecture as it does in the city. Or it could be the result of a more conscientious integration which is easier on the eye but maybe less intriguing. In either case, these buildings produce emotions, and these emotions are amplified furthermore because of the mountain background.

M ountain architecture is in some way an epic accomplishment. There is something heroic about it that compares to a mountaineering exploit. Men and buildings alike will suffer in the mountains, the challenge is great but so is the experience.

When we look at an obsolete mountain architecture, we are not only looking at an empty structure, we are contemplating an object that at a certain moment in time required a tremendous amount of effort and energy to be built. It is a testimony of what men believed they could accomplish in such a place and with so much spirit. We are forced to imagine the atmosphere of these constructions when they were proudly used in brighter days.

Those objects still exist in the Alps and their obsolescence may also mean they have a potential to be found. Thanks to our toolbox it may be possible to determine whether a building should be deconstructed to bring back the natural landscape or whether it presents interesting qualities to be reused. By finding the missing pieces to this puzzle a new architectural project could bring an obsolete mountain architecture back to life.

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PART 2: CATALOG

NOTICE

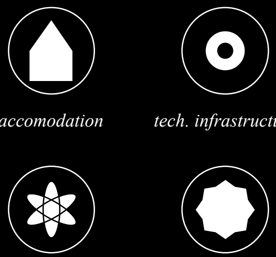
NOTICE

This notice is to understand the different methods of graphic representation that are used to categorize the objects in the catalog. The notice doesn't give a full explanation on the reason of each category. For futher understanding on the background of this notice, please refer to the chapter *Categorization* in Part 1 of this book (pp.92-131).

Firstly, we have used icons, which are easily recognizable on the first page *A* of each object. These are completed by a small textual notice containing more precise information about each building. On page *C* we have inserted the diagrams and roses that express the different intensities of phenomenology and obsolescence. Pages *B* and *D* contain on one hand a photography, on the other a redraw of the object.

NOTICE

A



FUNCTION

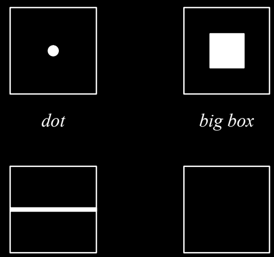
Every object has at least one function. Sometimes an object belongs to multiple functions, one primary and the others secondary. These are: *Accomodation - Technical Infrastructure - Research -Defense*.

S *small* **M** *medium*

L *large* **XL** *extra large*

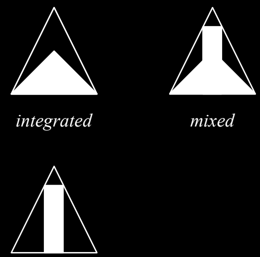
SIZE

The size of the objects ranges between *S - M - L - XL* depending on its apparent volume and capacity.



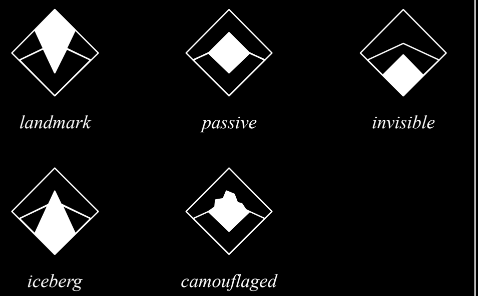
FORM

We can define a typical and general form for each object: *dot - big box - line - none*. This influences their impact on the landscape. Some objects are hybrids and are associated to two or more of these icons. Some objects are concealed underground and invisible, therefore they have no form



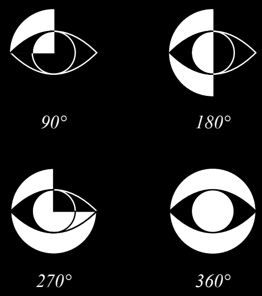
MATERIALITY

Depending on an objects' use of local or imported materials, its capacity to imitate traditional forms or its willingness to stand out, we can say if they are of *integrated - contrasted - mixed* materiality



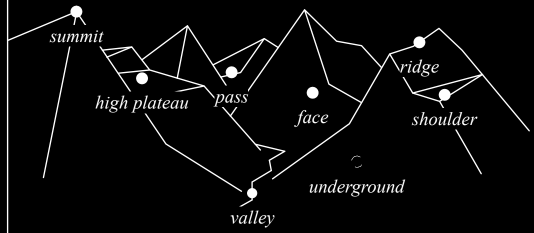
LANDSCAPE IMPACT

These icons are confered to objects that have the following different impacts on the landscape: *landmark - passive - iceberg - camouflaged - invisible*. An object can have multiple ways of being perceived in the mountains, thus obtaining multiple icons.



PANORAMA

This highly depends on criteria such as the building's position in the topography and its altitude. The available panoramic radius: *90° - 180° - 270° 360°.*



TOPOGRAPHY

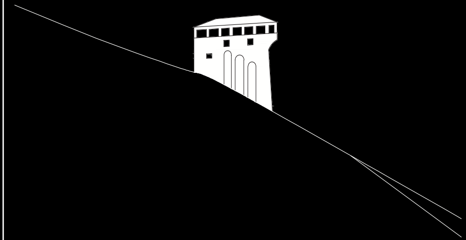
This diagram shows the different types of emplacements an object can adopt in the toporgaphy. *Underground - Valley - High Plateau - Pass - Face - Shoulder - Ridge - Summit.*

LOCATION

This small map of Switzerland indicates the general position of the object in the territory. Precise details on the exact location can be found in the object notice on the left and first page of each object in the catalog.

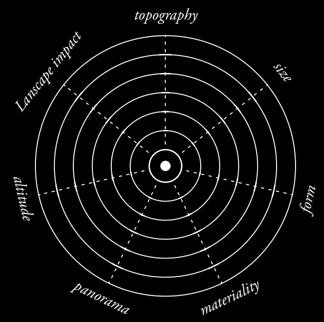
PHOTOGRAPHY

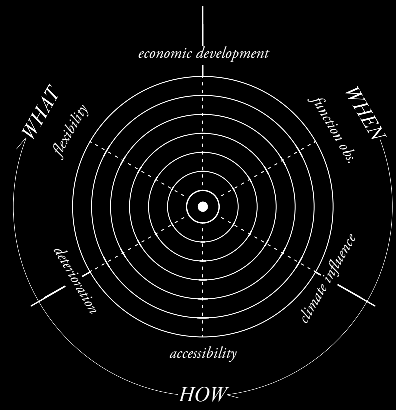
The image shows the real atmosphere of each object. It is an obvious and necessary tool to understand each and every category that has been applied to the object.



REDRAWS

The redraws of buildings enable us to give further information that is not always communicated in the photography. The buildings are graphically contrasted (in white) with the rest of the drawing in order to enhance their force in relation to the landscape. The windows and inside of the building are left in black to put forward its state of obsolescence.





CRITERIA INTENSITIES

The diagram above illustrates the intenisty of a given criteria. It is a scale which expresses the inflence of a precise criteria on either the eco-footprint, the phenomenology or the obsolescence. For a given category there are multiple criteria that are taken into account. The final value is an average, which is then communicated in the roses.

PHENOMENOLOGY ROSE

This rose resumes the different intensities of the phenomenology criteria. The greater the rose, the more points an object earns for beauty, impressiveness and "*mountain-ness.*" The criteria are: *topography - size - form - materiality - panorama - altitude - landscape impact*.

OBSOLESCENCE ROSE

This rose resumes the different criteria intensities of obsolescence and potential for reuse. The intensities are scaled so that a bigger rose means an object has a higher potential. The criteria are placed around the rose in relation to the interrogations on the potential *when*, *how* and *what*. The criteria are: *economic development - function obsolescence - climate influence - accessibility - deterioration - flexibility*.

COLLECTION
OF OBJECTS

COLLECTION OF OBJECTS

We have selected 50 objects for our catalog. The geographical area we have focused on is mainly the Swiss Alps, but we have also included some buildings that are situated in the Italian Piemont and French Savoie Alps. This isn't an exhaustive list of obsolete buildings found at high altitude and we are convinced there are more to discover. Many of these buildings are either abandonned or completely out of service. We have also included some buildings that are still in use nowadays, the reason for their presence in our catalog is either because they are only partially or temporarily used or that they present a risk of future obsolescence.

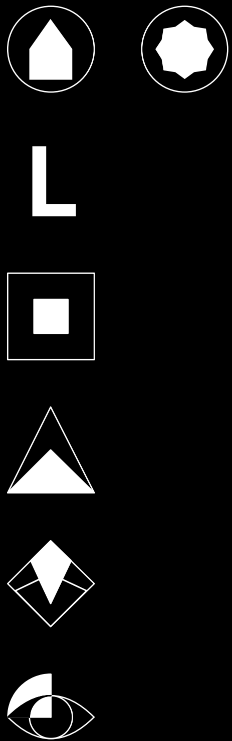
The objects are organized in alphabetical order by name, or by place when the specific name is unknown. Each building is analyzed on 4 pages. The buildings are:

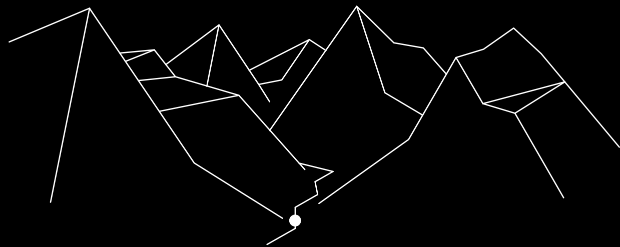
01 Alteshospiz
02 Barberine
03 Bäzberg
04 Belvedère
05 Binntal
06 Blatten
07 Blauhaus
08 Bürglen
09 Cavannapass
10 Les Chamois
11 La Chenalette
12 Eagle Simplon
13 Fellilücke
14 Fieudo
15 Fuchsegg
16 Furgggrat
17 Furkablick
18 Galenhütten
19 Galenstöck
20 La Gran Baita
21 Grimsel
22 Gütsch
23 Husegghütte
24 Julierpass
25 Lai Da Vons
26 Margarita
27 Monte Sises
28 Morgetegrat
29 Oropa
30 Osservatorio
31 Palace Mürren
32 Petit St Bernard
33 Pizzo Bianco
34 Planpraz
35 Radio Relay
36 Refuge Furka
37 Refuge Susten
38 San Bernardino
39 San Giacomo
40 San Gottardo
41 Sender Säntis
42 Stockhorn
43 Super St Bernard
44 Sustenpass
45 Titlis Funkturm
46 Tsalevey
47 Weissfluhjoch
48 Wildstrubel
49 Zentrale Zmutt
50 Zuoz

A

01 ALTESHOSPIZ

name
Alteshospiz
type
Hospice, Military Depot
location
Gampisch (Simplon Pass)
country
CH
canton
VS
commune
3907 Simplon Dorf
altitude
1865[m]
date of construction
1650
topography
Valley
size
L
form
Big Box
materiality
Stone, Wood, Mortar
panorama
90°
landscape impact
Landmark

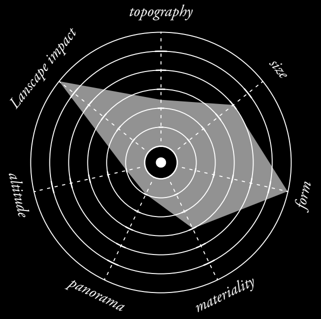




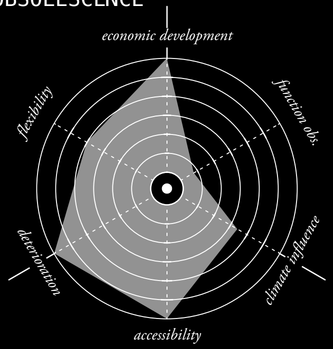
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

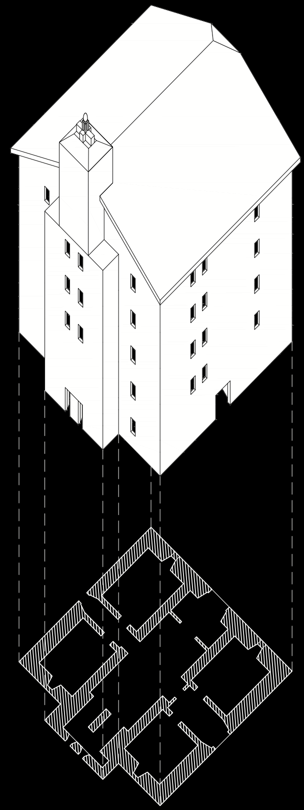
restrained — average — capacious

heritage value

valuable — average — null

01
ALTESHOSPIZ

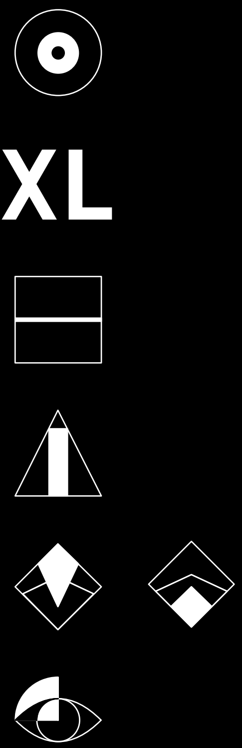
D

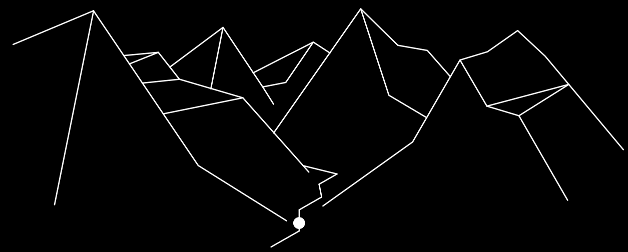


A

02
BARBERINE

name
Barrage de Barberine
type
Dam
location
Emosson Lake
country
CH
canton
VS
commune
1925 Finhaut
altitude
1920[m]
date of construction
1925
topography
Valley
size
XL
form
Line
materiality
Concrete, Steel, Stone
panorama
90°
landscape impact
Landmark, Invisible

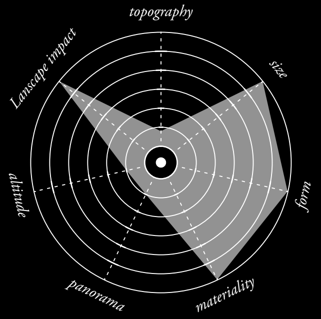




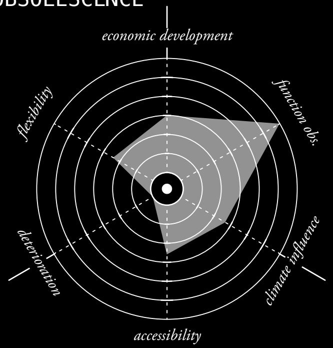
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

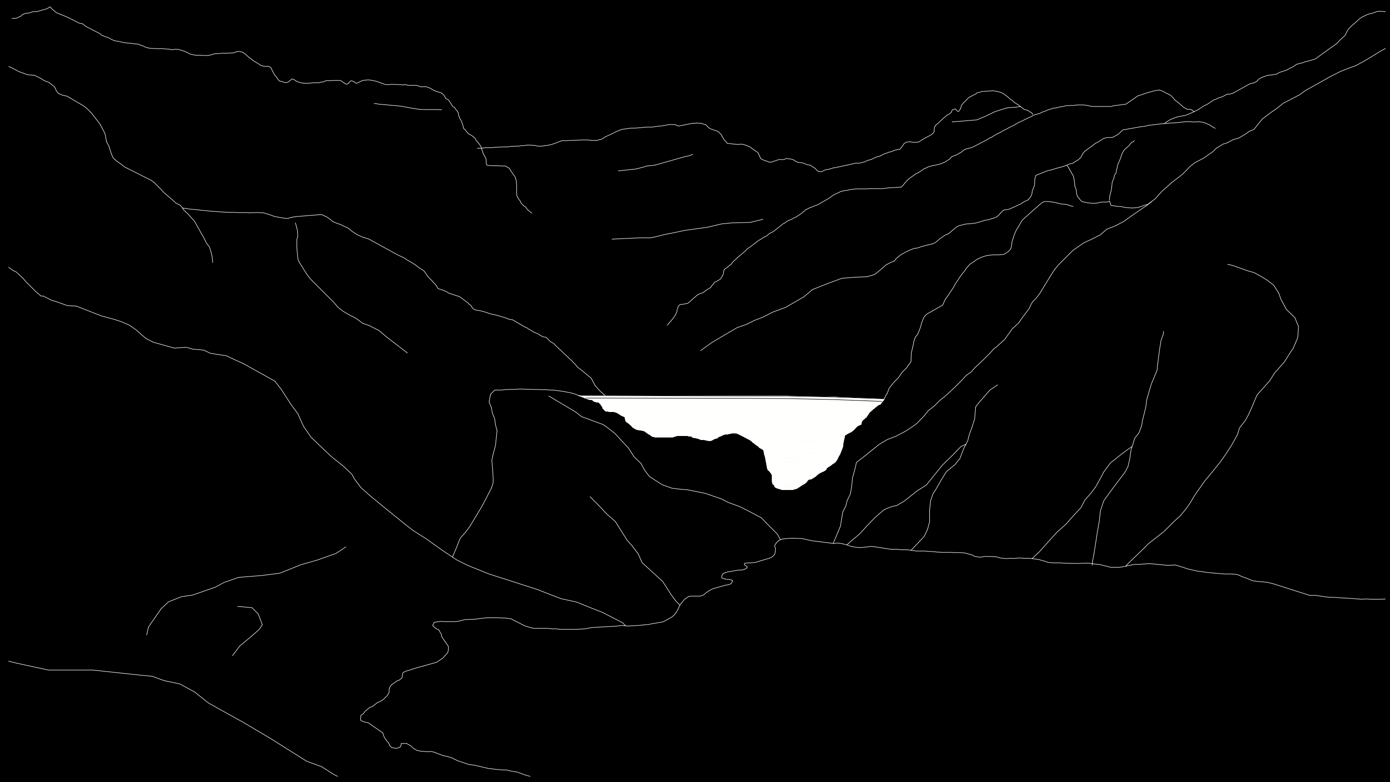
capacity

restrained *average* *capacious*

heritage value

valuable *average* *null*

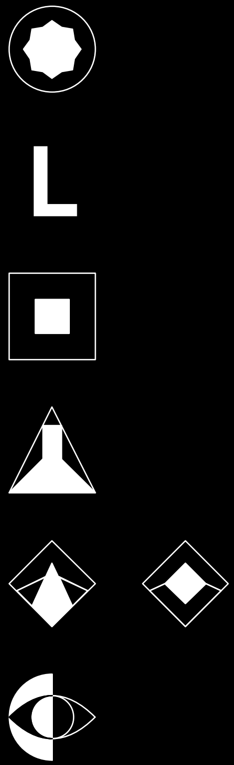
02
BARBERINE

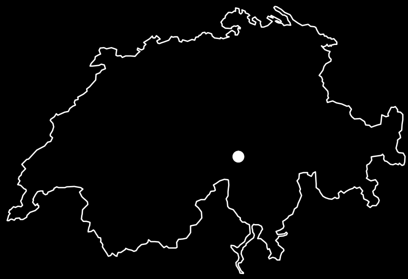


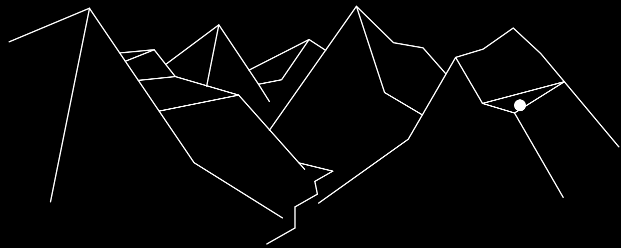
A

03
BÄZBERG

name
AW Bäzberg–Schöllen
type
Artillery Fortress
location
Hinter dem Berg
country
CH
canton
UR
commune
6490 Andermatt
altitude
1848[m]
date of construction
1892
topography
Shoulder
size
L
form
Big Box
materiality
Stone, Iron, Wood
panorama
180°
landscape impact
Iceberg, Passive





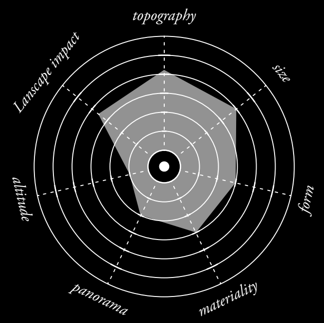


B

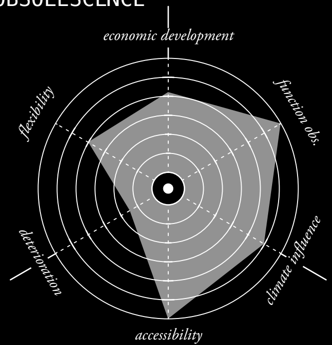
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

FLEXIBILITY

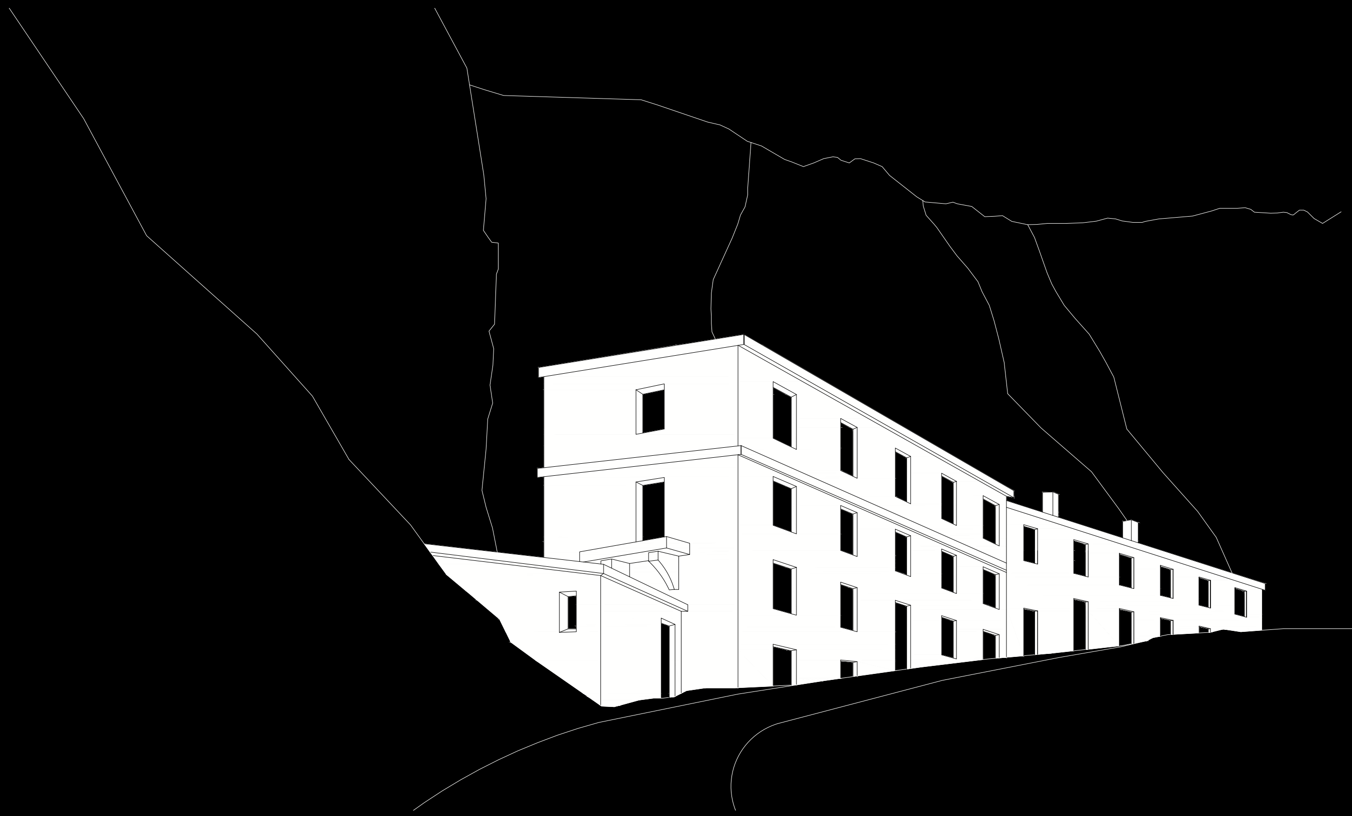
spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

heritage value
valuable — average — null

03
BÄZBERG

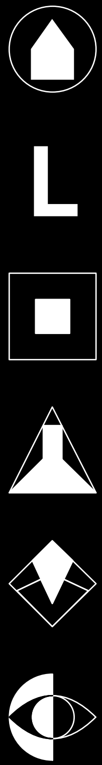
D

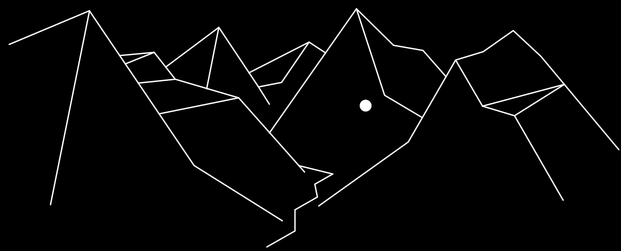


A

04
BELVEDERE

name
Berghotel Belvedere
type
Hotel
location
Rhone Glacier (Furka)
country
CH
canton
VS
commune
3999 Oberwald
altitude
2270[m]
date of construction
1903
topography
Face
size
L
form
Big Box
materiality
Stone, Wood, Metal
panorama
180°
landscape impact
Landmark



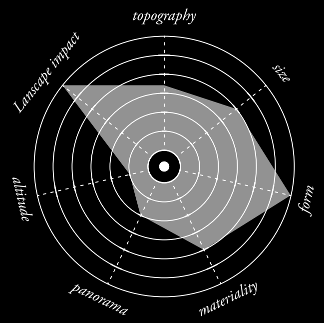


B

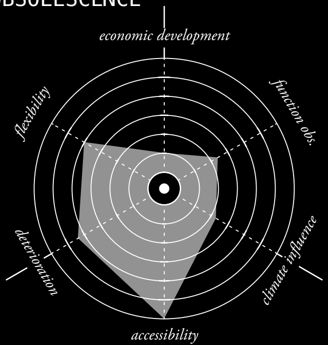
C

Graphs

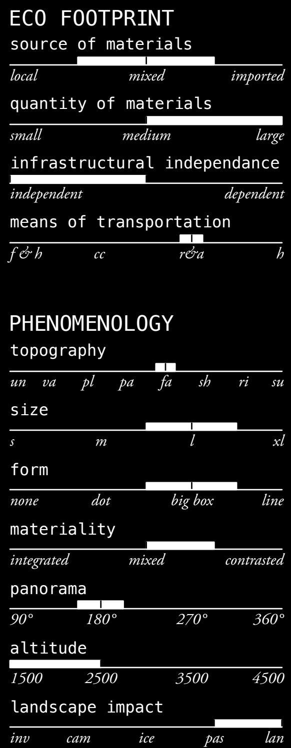
PHENOMENOLOGY



OBSOLESCENCE



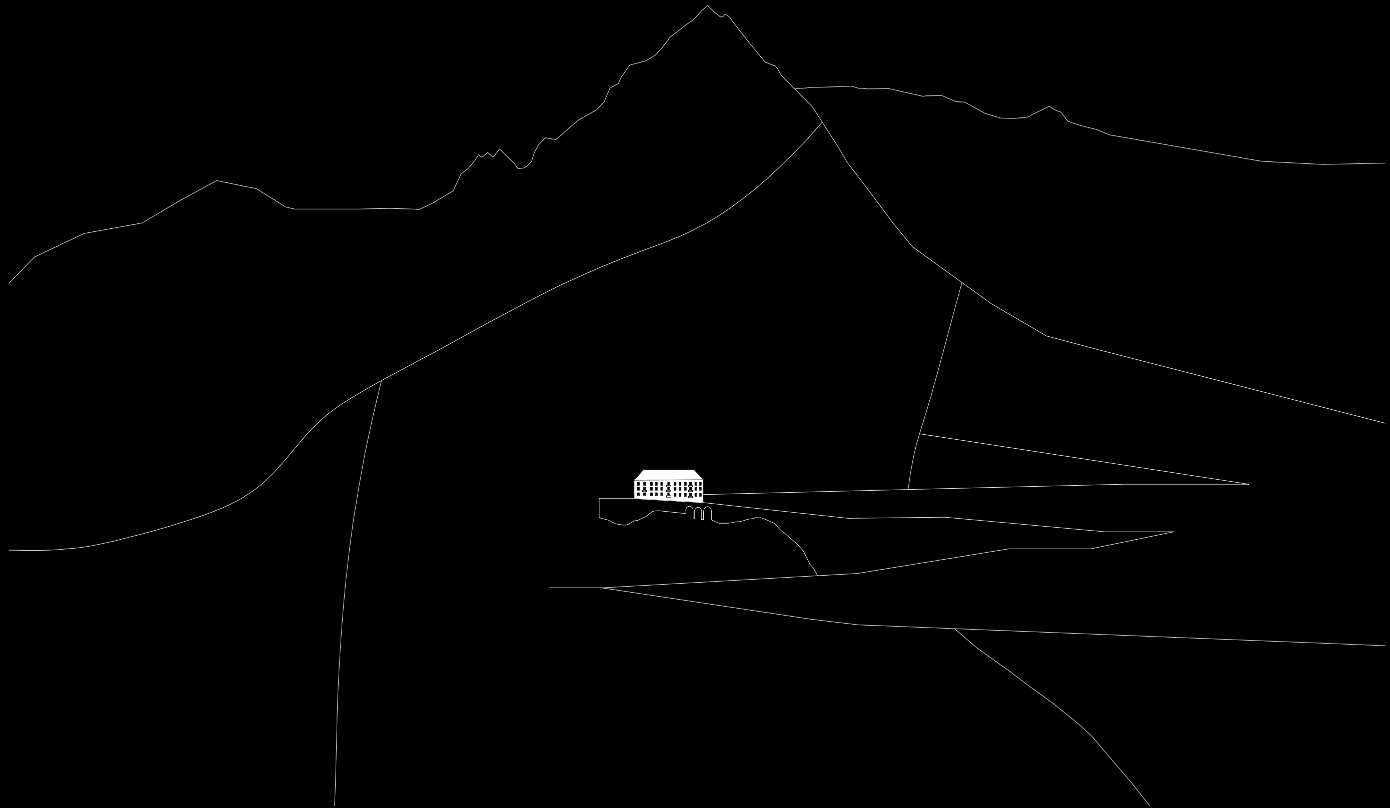
Phenomenology values



Obsolescence values

04
BELVEDERE

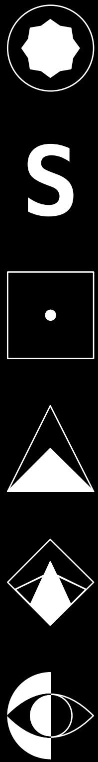
D

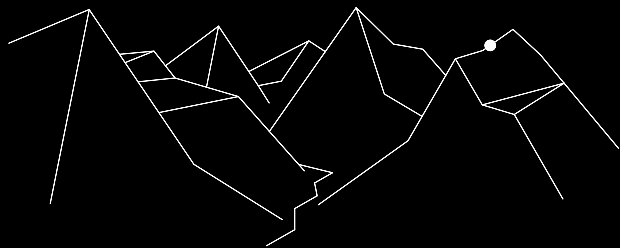


A

05
BINNTAL

name
IW Binntal
type
Infantry Bunker
location
Eggerhorn (Binntal)
country
CH
canton
VS
commune
3996 Binn
altitude
2460[m]
date of construction
1940
topography
Ridge
size
S
form
Dot
materiality
Stone, Concrete, Metal
panorama
180°
landscape impact
Iceberg

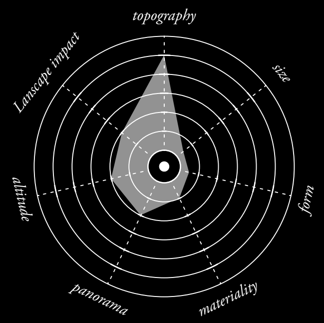




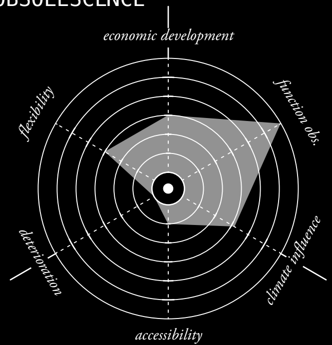
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

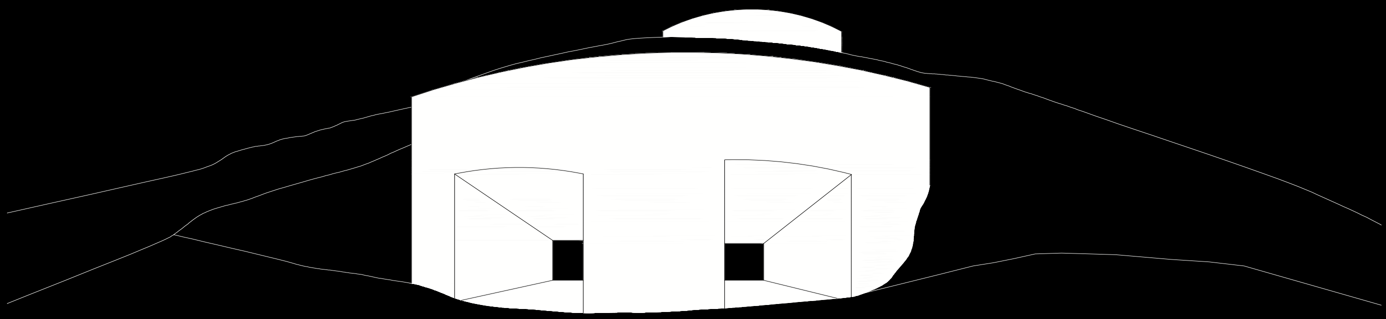
restrained *average* *capacious*

heritage value

valuable *average* *null*

05
BINNTAL

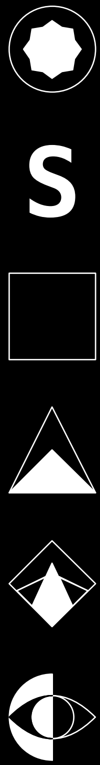
D

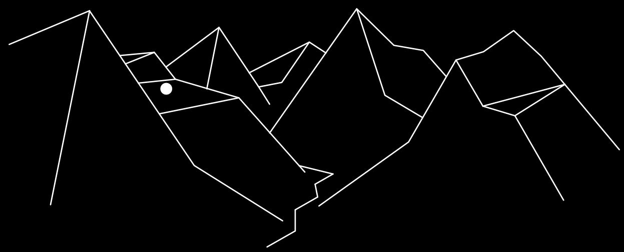


A

06
BLATTEN

name
Sperrstelle Blatten
type
Infantry Bunker
location
Blatte (Simplonpass)
country
CH
canton
VS
commune
3907 Simplon Dorf
altitude
1975[m]
date of construction
1890
topography
High Plateau
size
S
form
None
materiality
Stone, Brick, Ciment
panorama
180°
landscape impact
Iceberg

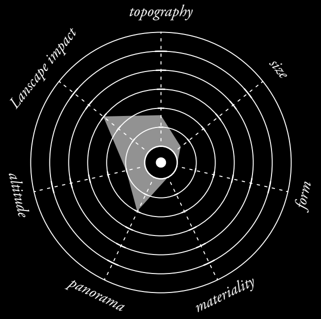




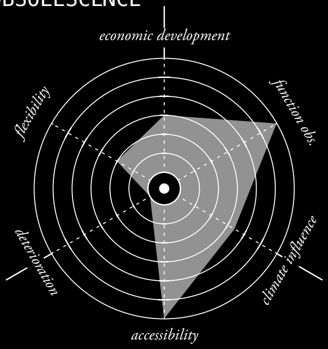
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

FLEXIBILITY

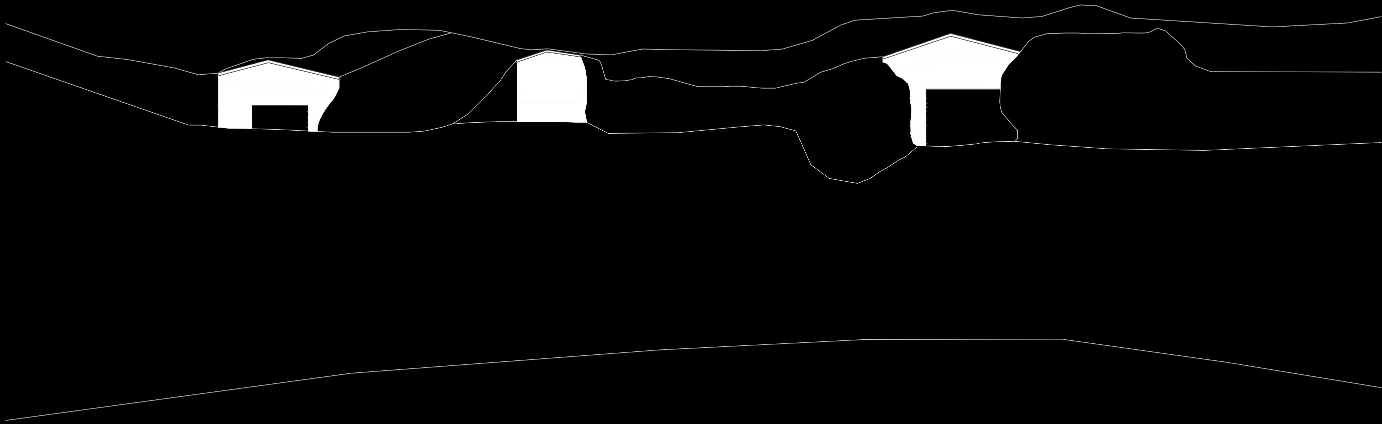
spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

heritage value
valuable — average — null

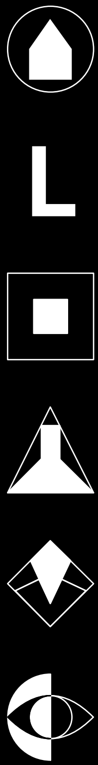
06
BLATTEN

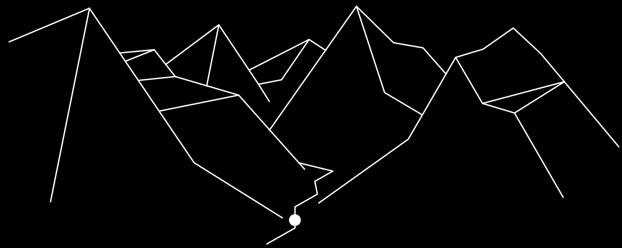
D



07
BLAUHAUS

name
DFB Blauhaus
type
Hotel Outbuilding
location
Gletsch
country
CH
canton
VS
commune
3999 Oberwald
altitude
1761[m]
date of construction
1850
topography
Valley
size
L
form
Big Box
materiality
Stone, Wood, Metal
panorama
180°
landscape impact
Landmark



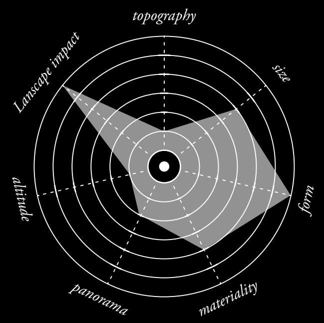


B

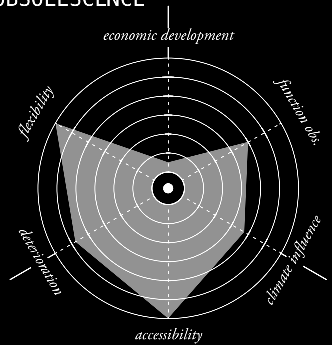
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local mixed imported

quantity of materials

small medium large

infrastructural independance

independent dependent

means of transportation

f & h cc r&a h

PHENOMENOLOGY

topography

un va pl pa fa sh ri su

size

s m l xl

form

none dot big box line

materiality

integrated mixed contrasted

panorama

90° 180° 270° 360°

altitude

1500 2500 3500 4500

landscape impact

inv cam ice pas lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static average dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y 0 m/y

programmatic obsolescence

relevant average obsolete

technical obsolescence

relevant - n/a average obsolete

future obsolescence risk

unknown near future imminent

CLIMATE INFLUENCE

climate conditions

rough average mild

hazard exposure

exposed average protected

seasonal accessibility

seasonable average all year

altitude

4500 3500 2500 1500

ACCESSIBILITY

infrastructure connection

none path road inst.

distance from access point

>1h <1h 0

vertical difference

>100m <100m 0

DETERIORATION

structure

degraded average intact

technical installations

degraded average intact - n/a

FLEXIBILITY

spatial complexity

complex average elementary

capacity

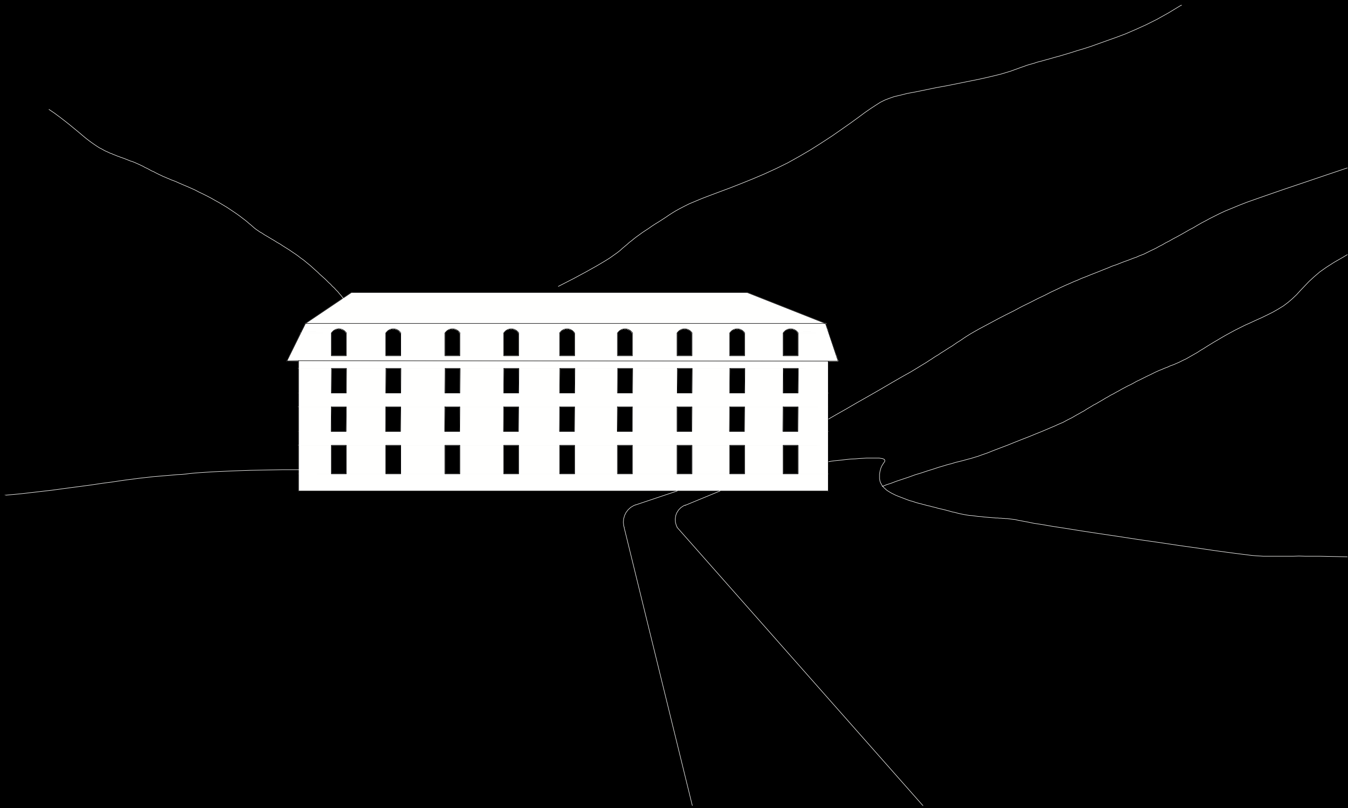
restrained average capacious

heritage value

valuable average null

07
BLAUHAUS

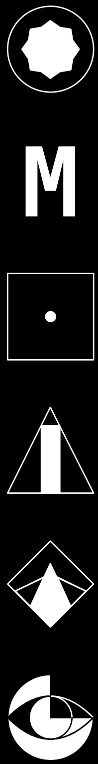
D

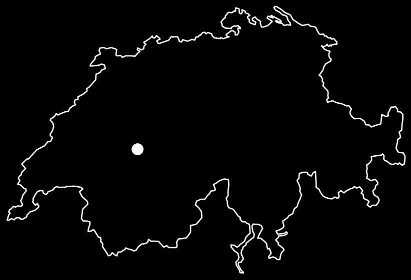


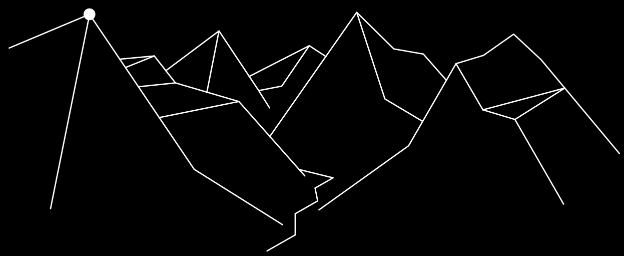
A

08
BÜRGLEN

name
IW Bürglen
type
Infantry Bunker
location
Bürgle
country
CH
canton
BE
commune
1738 Sangerboden
altitude
2160[m]
date of construction
1944
topography
Summit
size
M
form
Dot(s)
materiality
Concrete, Steel
panorama
270°
landscape impact
Iceberg



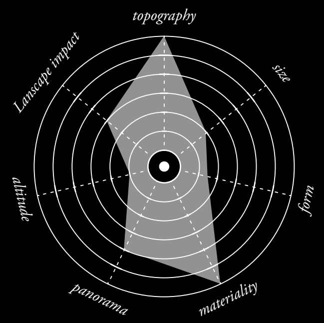




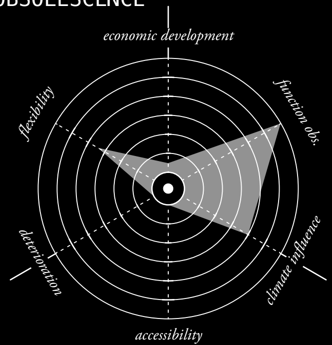
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

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unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

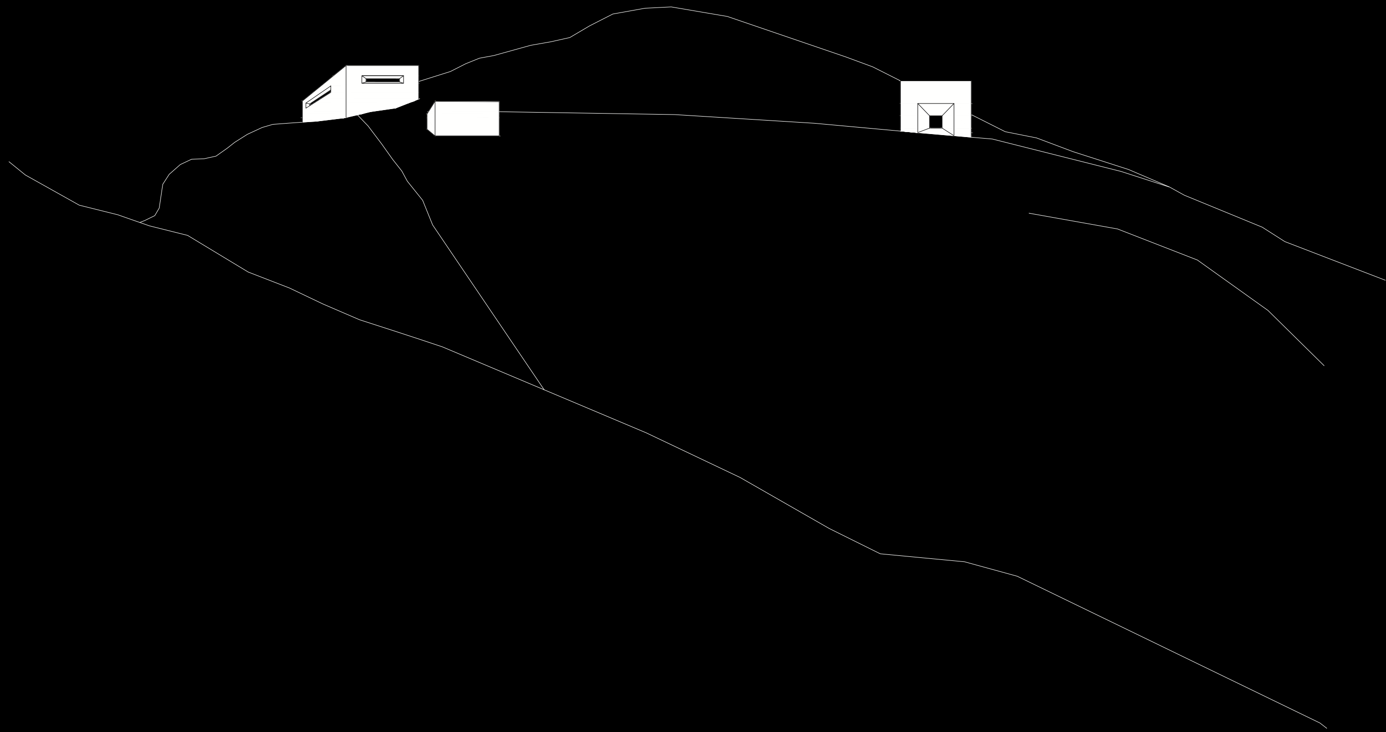
restrained — average — capacious

heritage value

valuable — average — null

08
BÜRGLEN

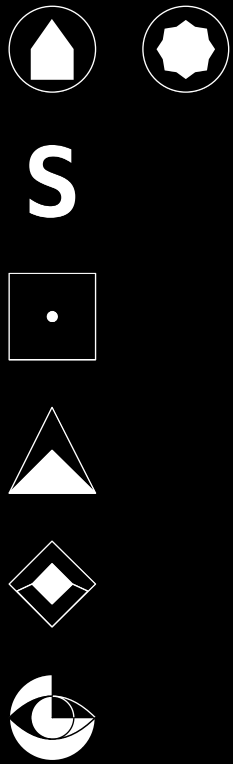
D

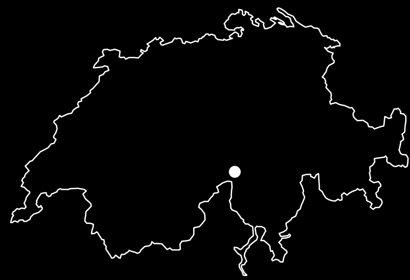


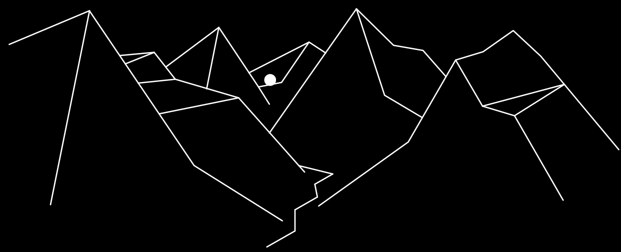
A

09
CAVANNAPASS

name
Cavannapass Hütte
type
Military Refuge
location
Cavanna Pass
country
CH
canton
UR
commune
6491 Realp
altitude
2620[m]
date of construction
1939
topography
Pass
size
S
form
Dot(s)
materiality
Stone, Plaster, Wood
panorama
270°
landscape impact
Passive





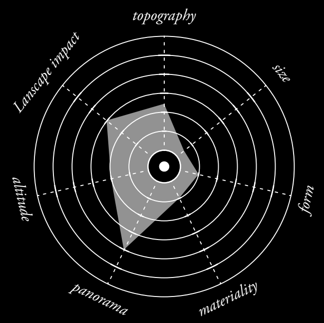


B

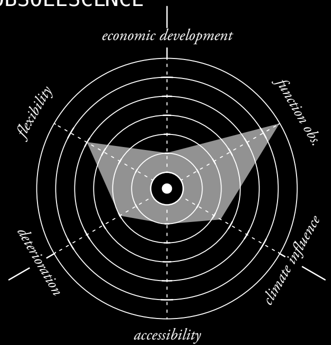
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

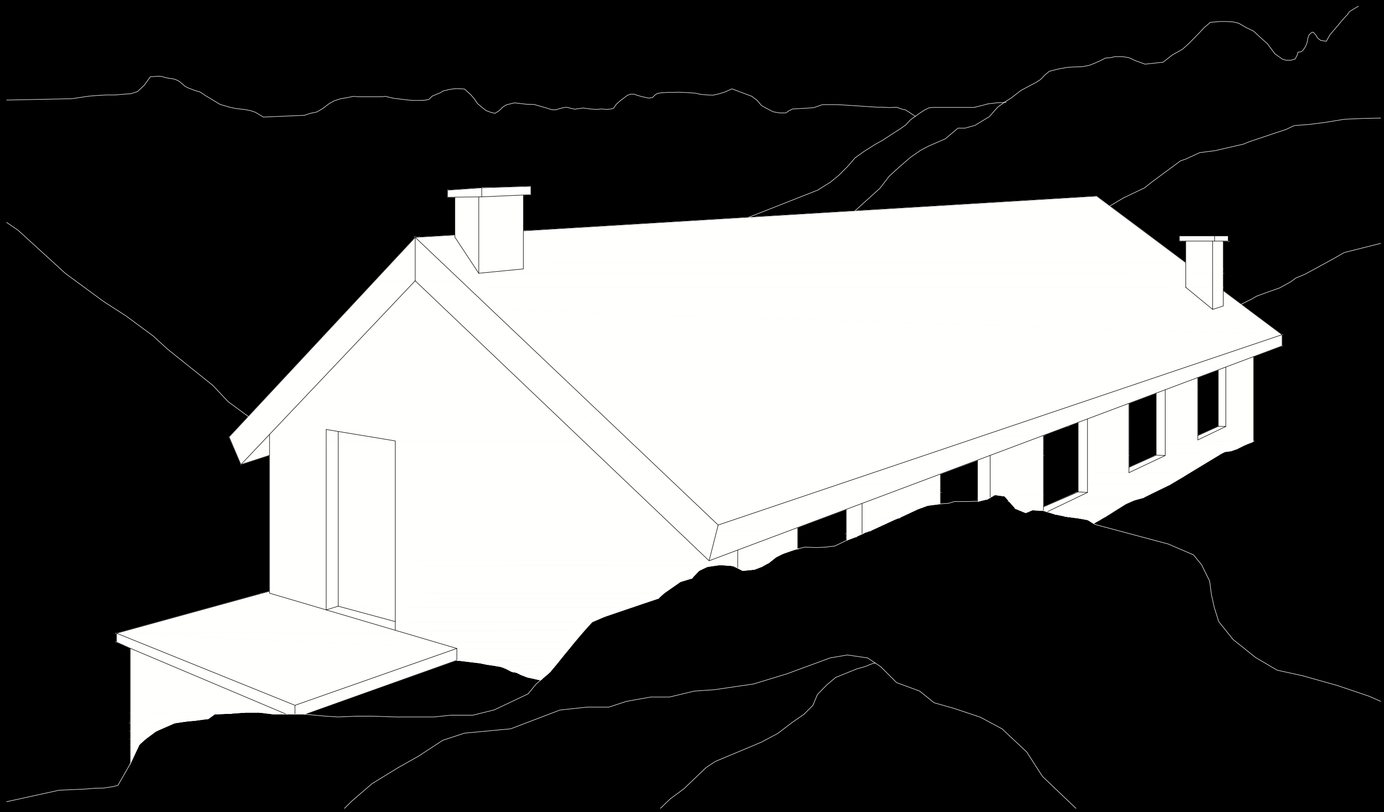
restrained — average — capacious

heritage value

valuable — average — null

09
CAVANNAPASS

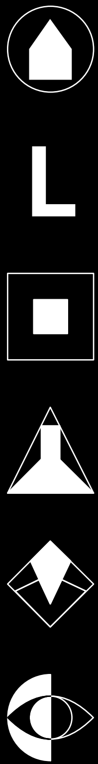
D

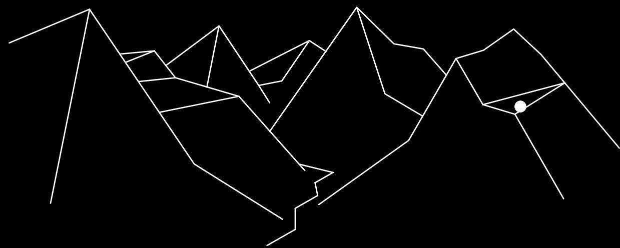


A

10
LES_CHAMOIS

name
Les Chamois
type
Hotel, Sanatorium
location
Praréa
country
CH
canton
VD
commune
1854 Leysin
altitude
1485[m]
date of construction
1903
topography
Shoulder
size
L
form
Big Box
materiality
Limestone, Plaster, Wood
panorama
180°
landscape impact
Landmark



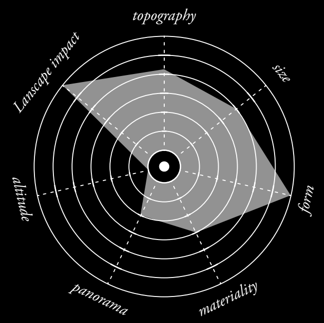


B

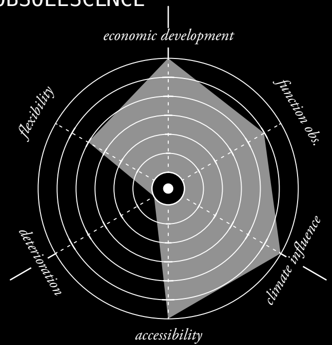
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

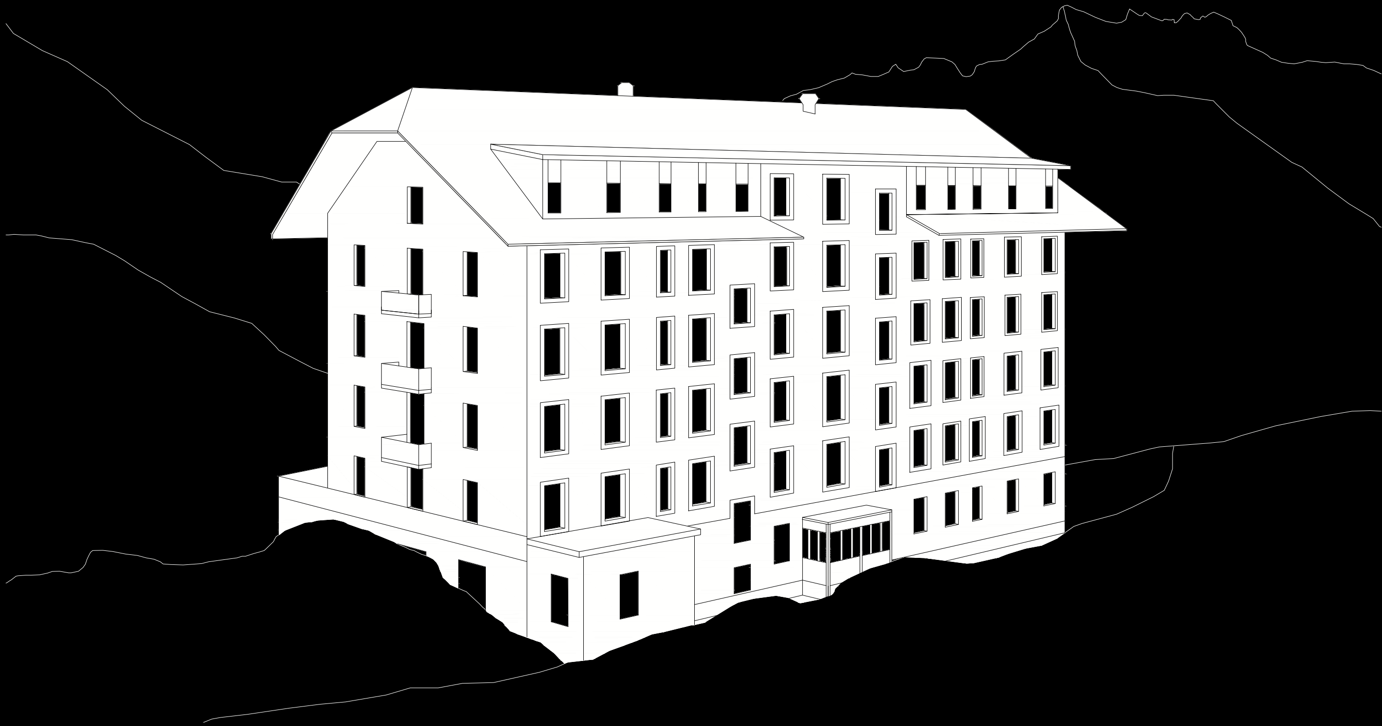
restrained — average — capacious

heritage value

valuable — average — null

10
LES_CHAMOIS

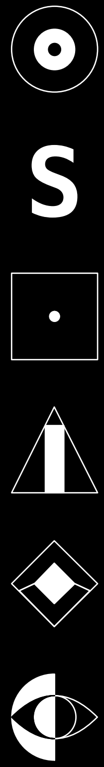
D

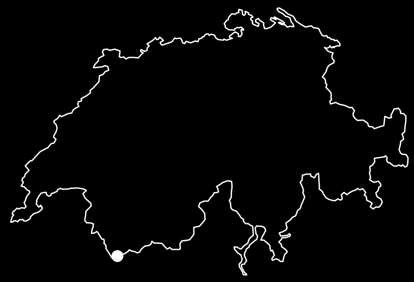


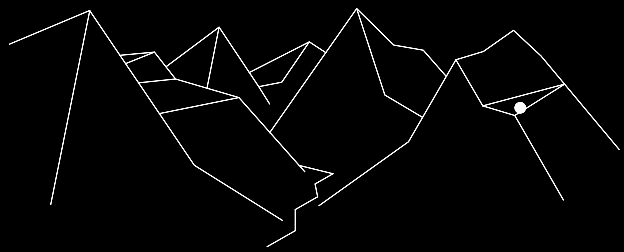
A

11
LA_CHENALETTE

name
La Chenalette
type
Chair Lift
location
Petite Chenalette
country
CH, IT
canton
VS
commune
1946 Bourg St-Pierre
altitude
2791[m]
date of construction
1954
topography
Shoulder
size
S
form
Dot
materiality
Concrete, Wood, Plaster
panorama
180°
landscape impact
Passive





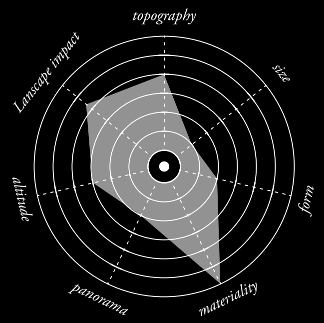


B

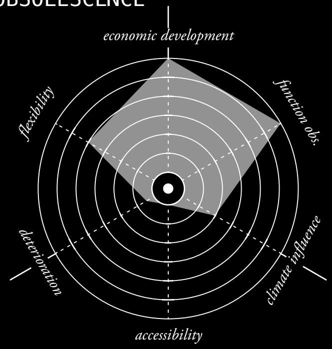
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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quantity of materials

small — medium — large

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independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

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seasonable — average — all year

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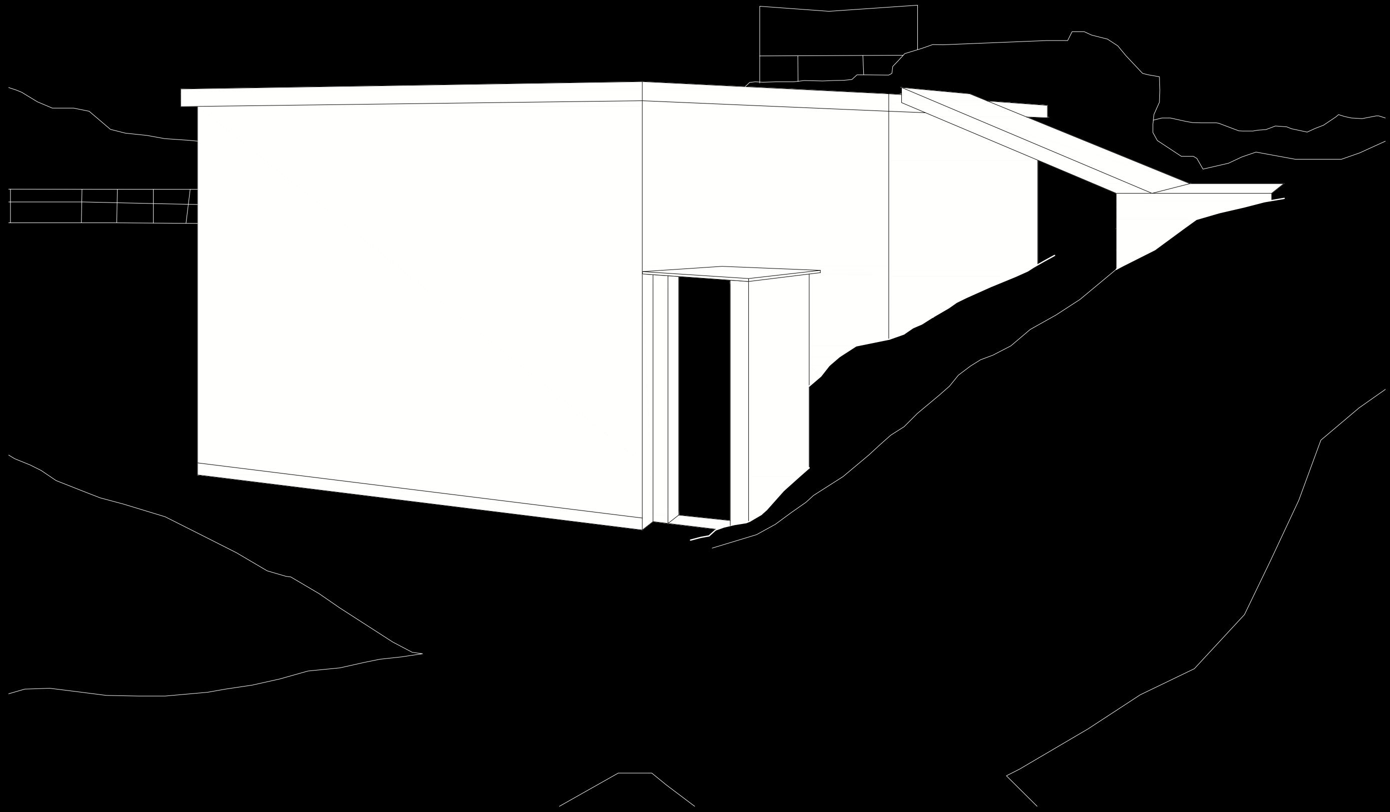
valuable — average — null

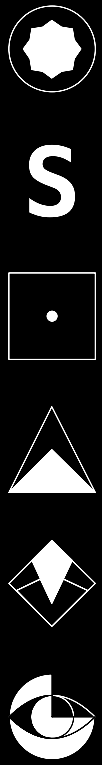
11
LA_CHENALETTE *D*

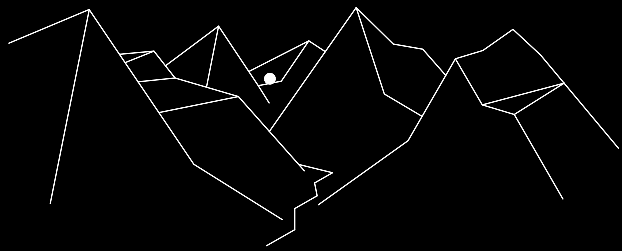


A

12
EAGLE_SIMPLON

name
Alder Gebrigsbrigade 11
type
Monument, Bunker
location
Simplon Pass
country
CH
canton
VS
commune
3907 Simplon Dorf
altitude
2029[m]
date of construction
1945
topography
Pass
size
S
form
Dot
materiality
Stone, Metal
panorama
270°
landscape impact
Landmark



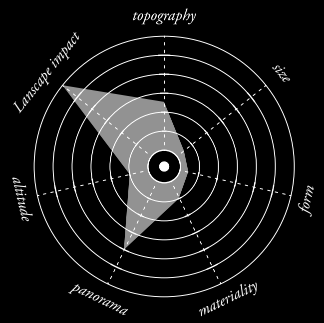



GEBIRGS-
BRIGADE 11
1945

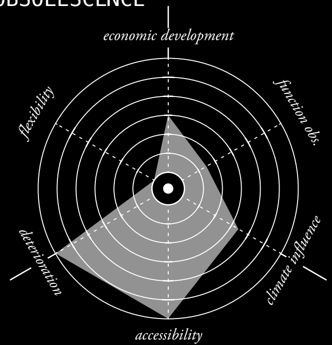
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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f & h — cc — r&a — h

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topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

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static — average — dynamic

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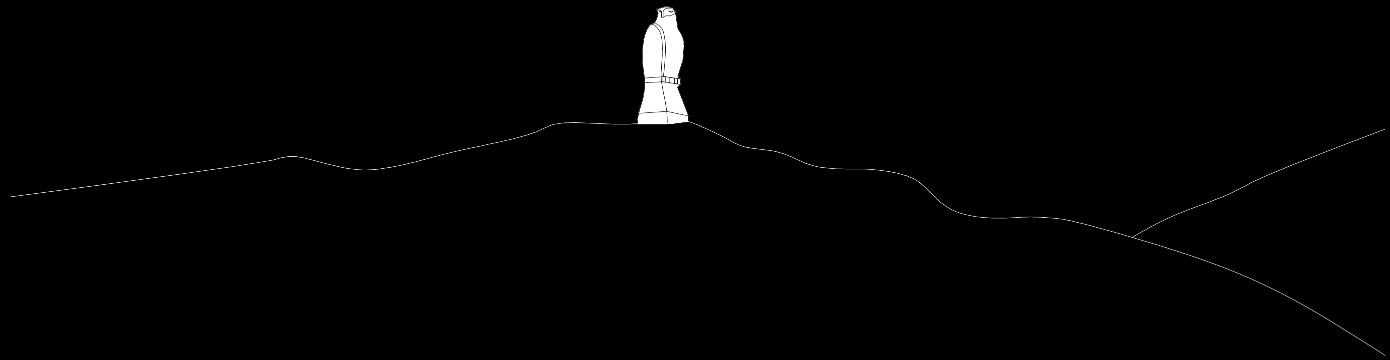
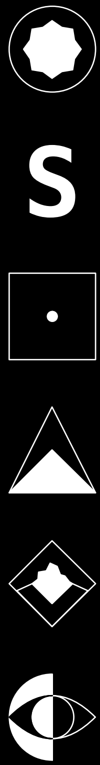
12
EAGLE_SIMPLON

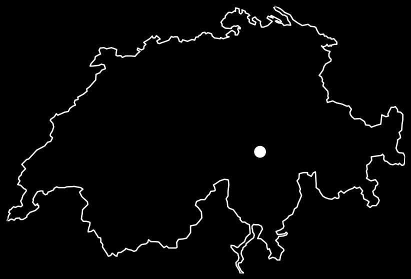
D

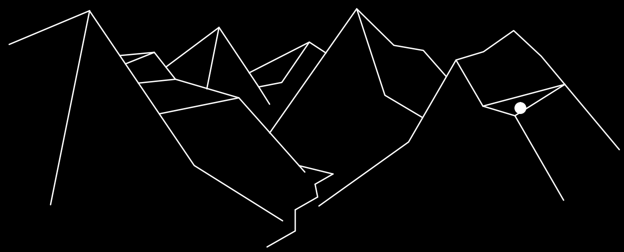


13
FELLILÜCKE

name
Sperrstelle Fellilücke
type
Infantry Bunker
location
Fellilücke (Oberalppass)
country
CH
canton
UR
commune
6490 Andermatt
altitude
2478[m]
date of construction
1850
topography
Shoulder
size
S
form
Dot
materiality
Stone, Ciment
panorama
180°
landscape impact
Camouflaged





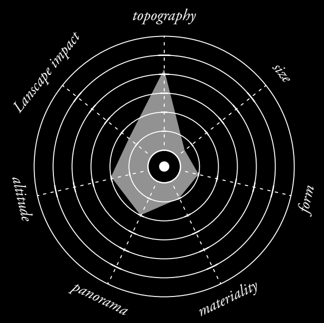


B

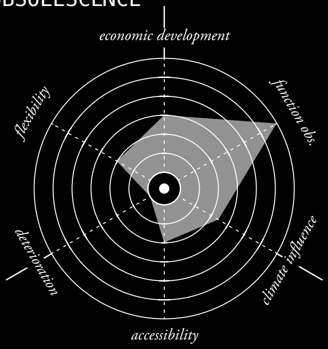
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

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seasonable — average — all year

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>100m — <100m — 0

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degraded — average — intact - n/a

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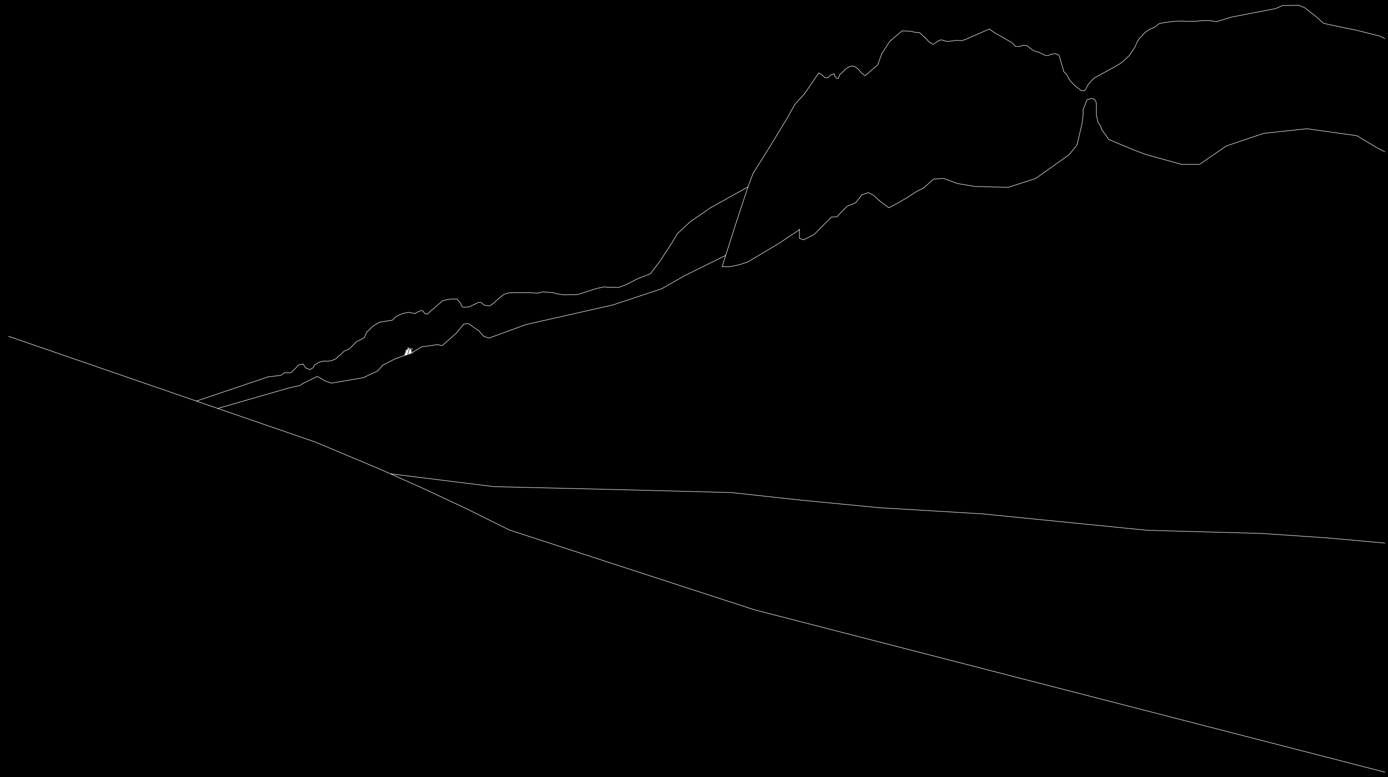
restrained — average — capacious

heritage value

valuable — average — null

13
FELLILÜCKE

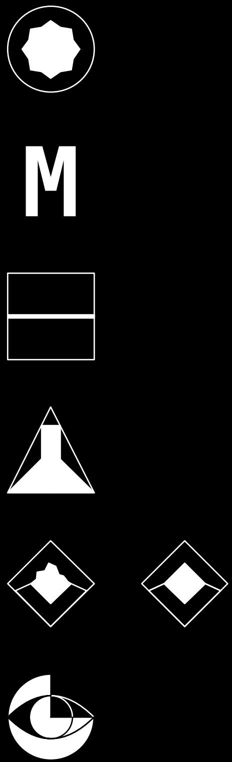
D

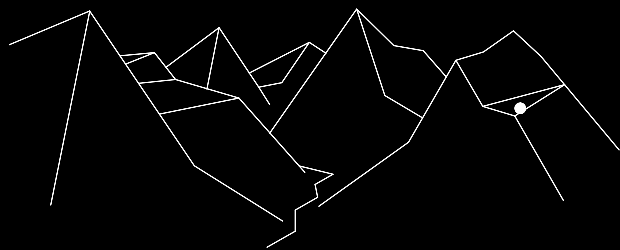


A

14
FIEUDO

name
Fortificazione di Fieudo
type
Military Fortification
location
Val Tremola
country
CH
canton
TI
commune
6780 Airolo
altitude
2130[m]
date of construction
1907
topography
Shoulder
size
M
form
Line
materiality
Stone, Ciment, Steel
panorama
270°
landscape impact
Passive, Camouflaged

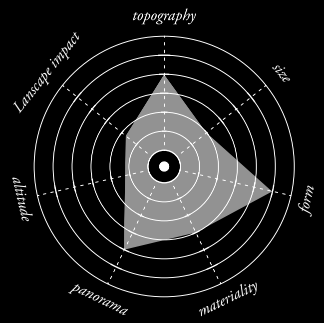




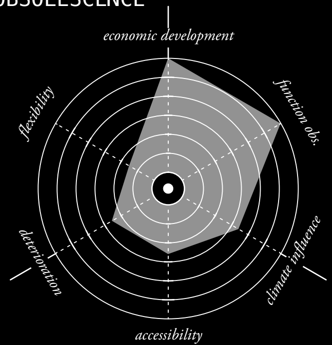
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

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90° — 180° — 270° — 360°

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1500 — 2500 — 3500 — 4500

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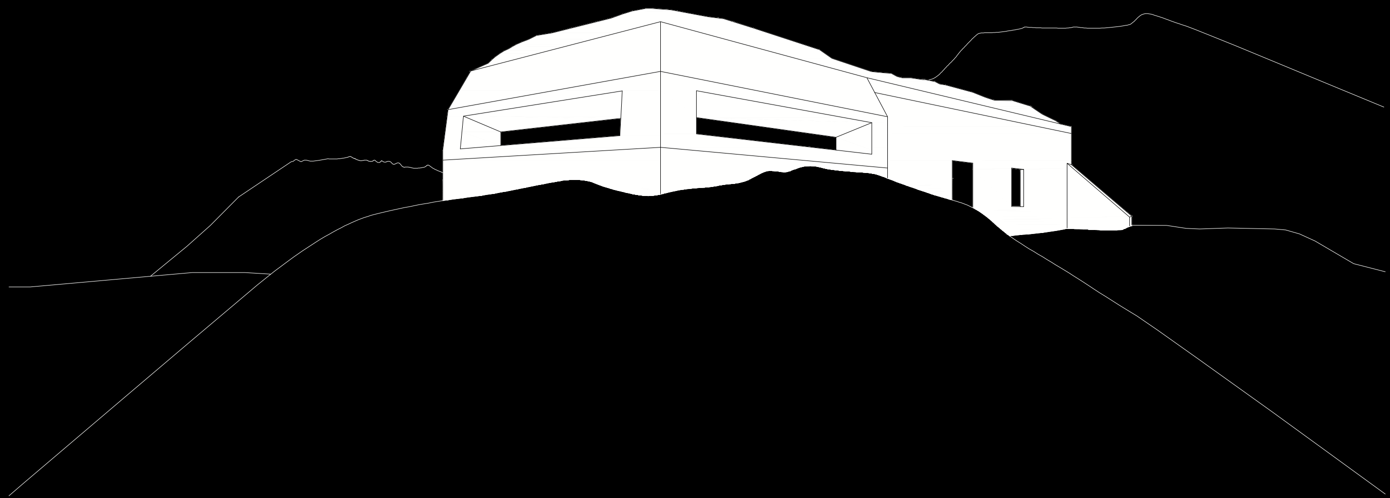
14
FIEUDO

D



A

15
FUCHSEGG

name
Festung Fuchsegg

type
Military Fortification

location
Unter Boden

country
CH

canton
UR

commune
6491 Realp

altitude
1978[m]

date of construction
1943

topography
High Plateau

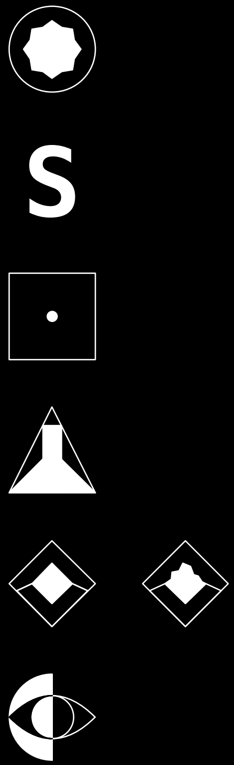
size
S

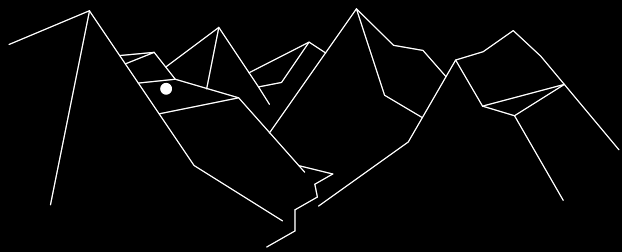
form
Dot

materiality
Concrete, Steel, Wood

panorama
180°

landscape impact
Passive

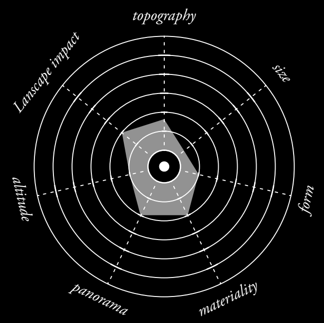




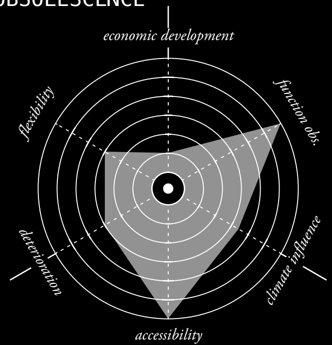
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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1500 — 2500 — 3500 — 4500

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inv — cam — ice — pas — lan

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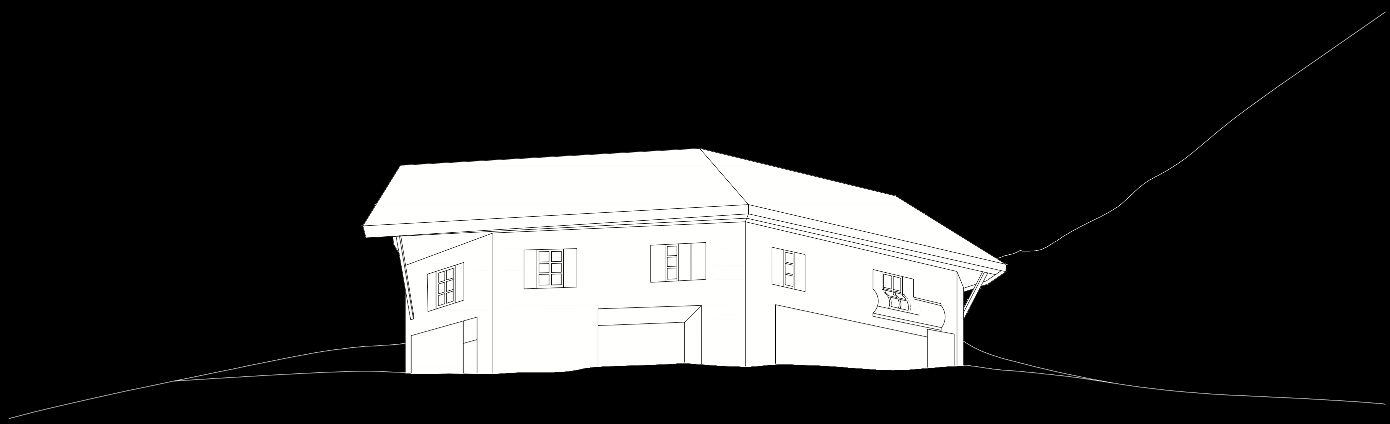
15
FUCHSEGG

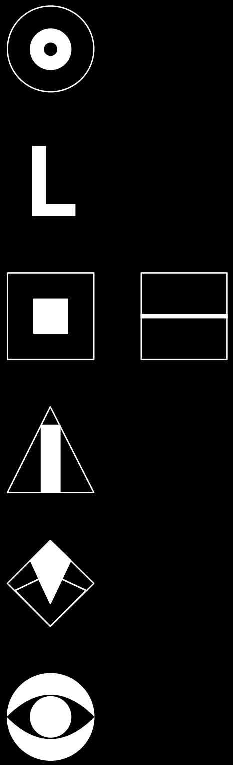
D

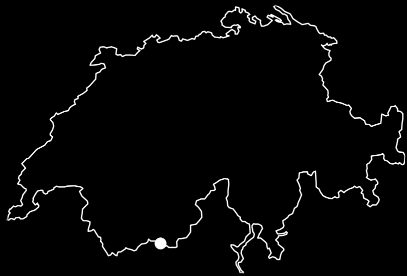


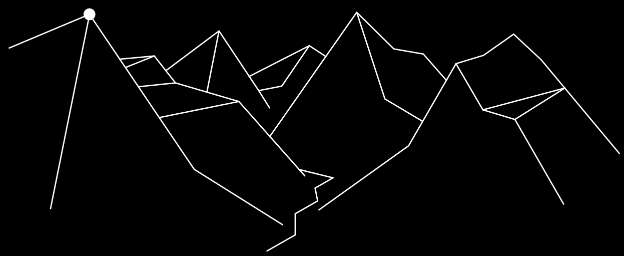
A

16
FURGGGRAT

name
Bergstation Furgggrat
type
Cable Car Station
location
Cima di Furggen
country
CH & IT
canton
VS
commune
3920 Zermatt
altitude
3485[m]
date of construction
1952
topography
Summit
size
L
form
Big Box, Line
materiality
Concrete, Wood, Metal
panorama
360°
landscape impact
Landmark





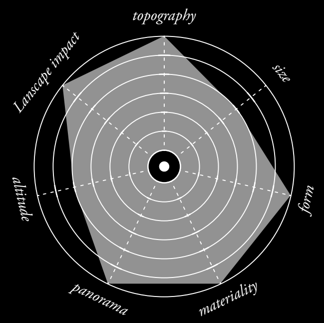


B

C

Graphs

PHENOMENOLOGY



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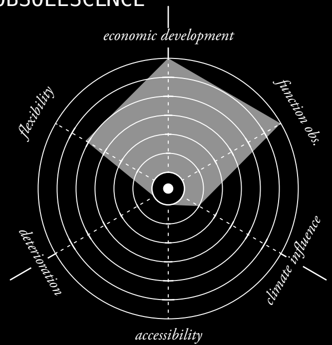

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landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

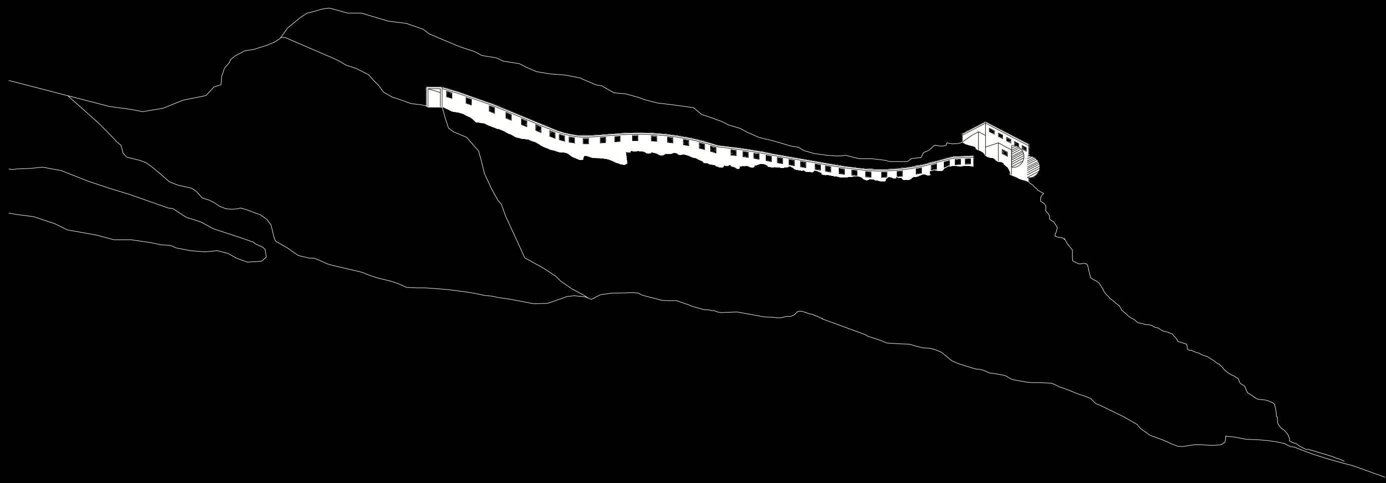
restrained — average — capacious

heritage value

valuable — average — null

16
FURGGGRAT

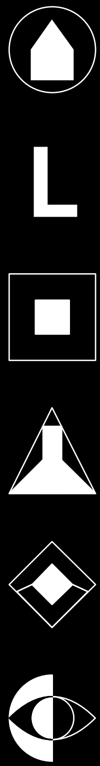
D

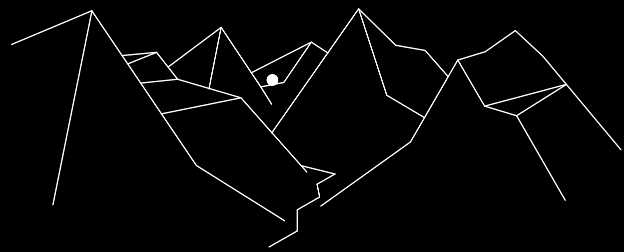


A

17
FURKABLICK

name
Hotel Furkablick
type
Hotel
location
Furka Pass
country
CH
canton
UR
commune
6491 Realp
altitude
2427[m]
date of construction
1903
topography
Pass
size
L
form
Big Box
materiality
Limestone, Plaster, Wood
panorama
180°
landscape impact
Passive



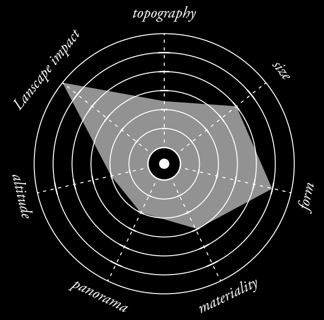



FURKABLICK

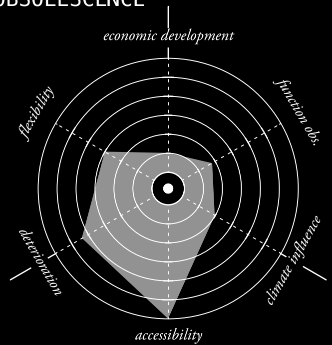
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

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seasonable — average — all year

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4500 — 3500 — 2500 — 1500

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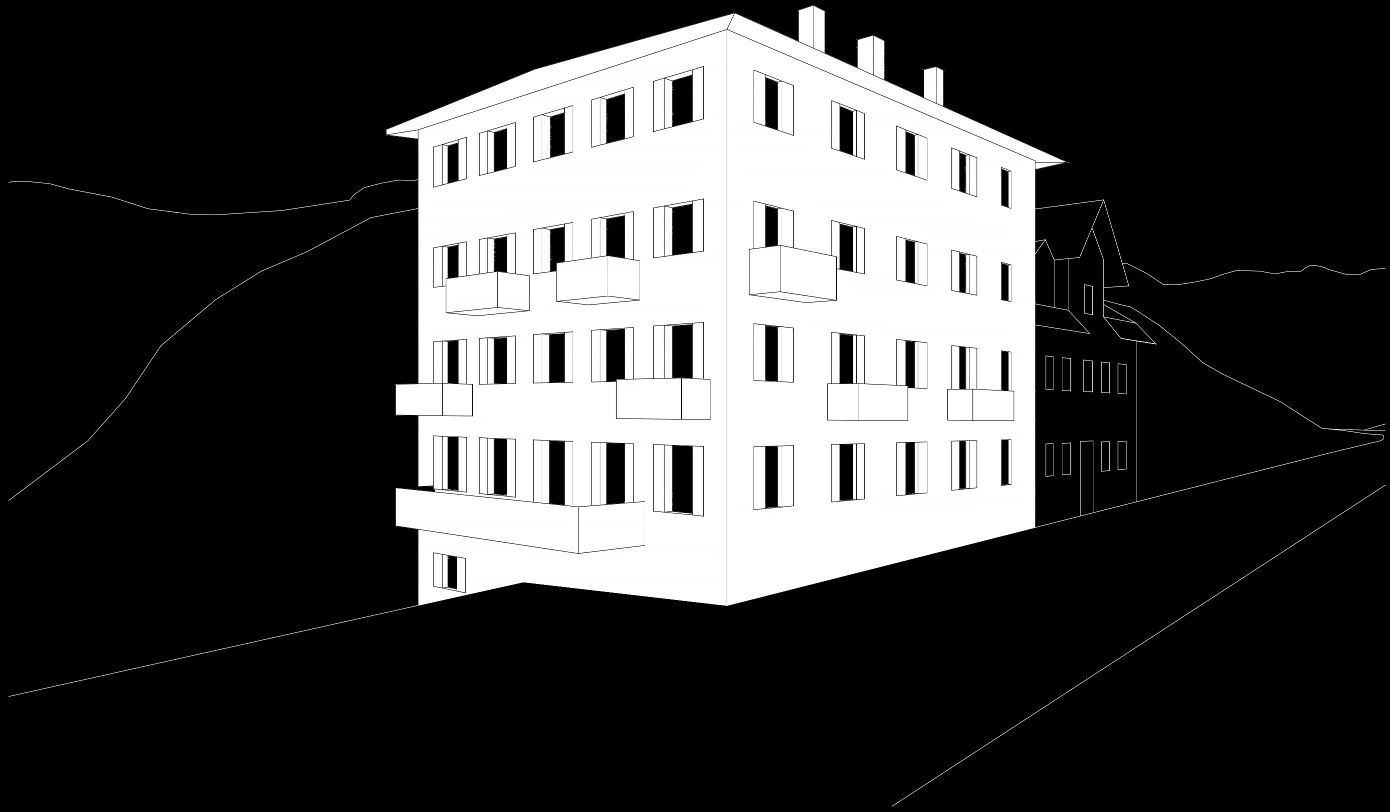
heritage value

valuable — average — null

17
FURKABLICK

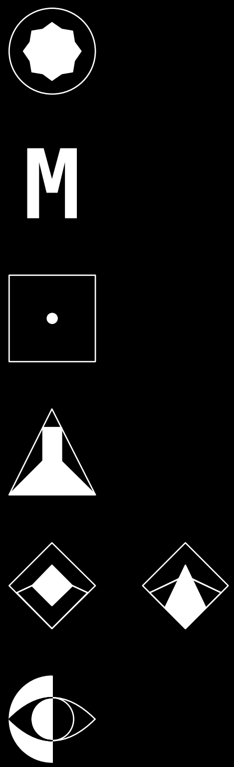
D

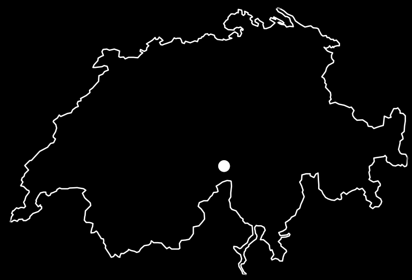


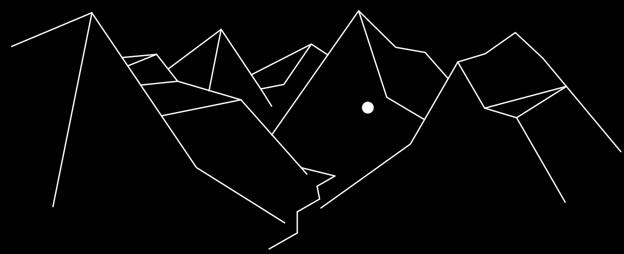
A

18
GALENHÜTTEN

name
Sperrstelle Galenhütten
type
Infantry Fortress
location
Galen (Furka Pass)
country
CH
canton
VS
commune
6076 Obergoms
altitude
2410[m]
date of construction
1885
topography
Face
size
M
form
Dot
materiality
Stone, Ciment, Metal
panorama
180°
landscape impact
Passive, Iceberg



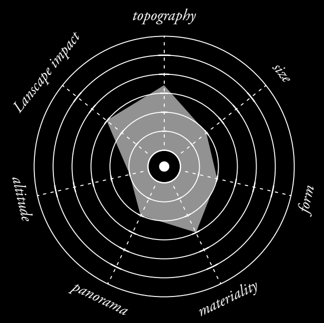




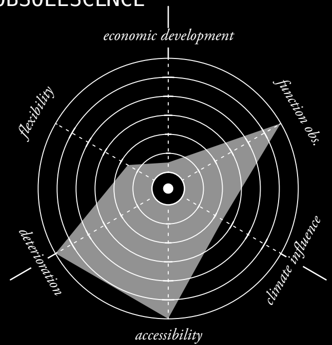
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local mixed imported

quantity of materials

small medium large

infrastructural independance

independent dependent

means of transportation

f & h cc r&a h

PHENOMENOLOGY

topography

un va pl pa fa sh ri su

size

s m l xl

form

none dot big box line

materiality

integrated mixed contrasted

panorama

90° 180° 270° 360°

altitude

1500 2500 3500 4500

landscape impact

inv cam ice pas lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static average dynamic

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exposed average protected

seasonal accessibility

seasonable average all year

altitude

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infrastructure connection

none path road inst.

distance from access point

>1h <1h 0

vertical difference

>100m <100m 0

DETERIORATION

structure

degraded average intact

technical installations

degraded average intact - n/a

FLEXIBILITY

spatial complexity

complex average elementary

capacity

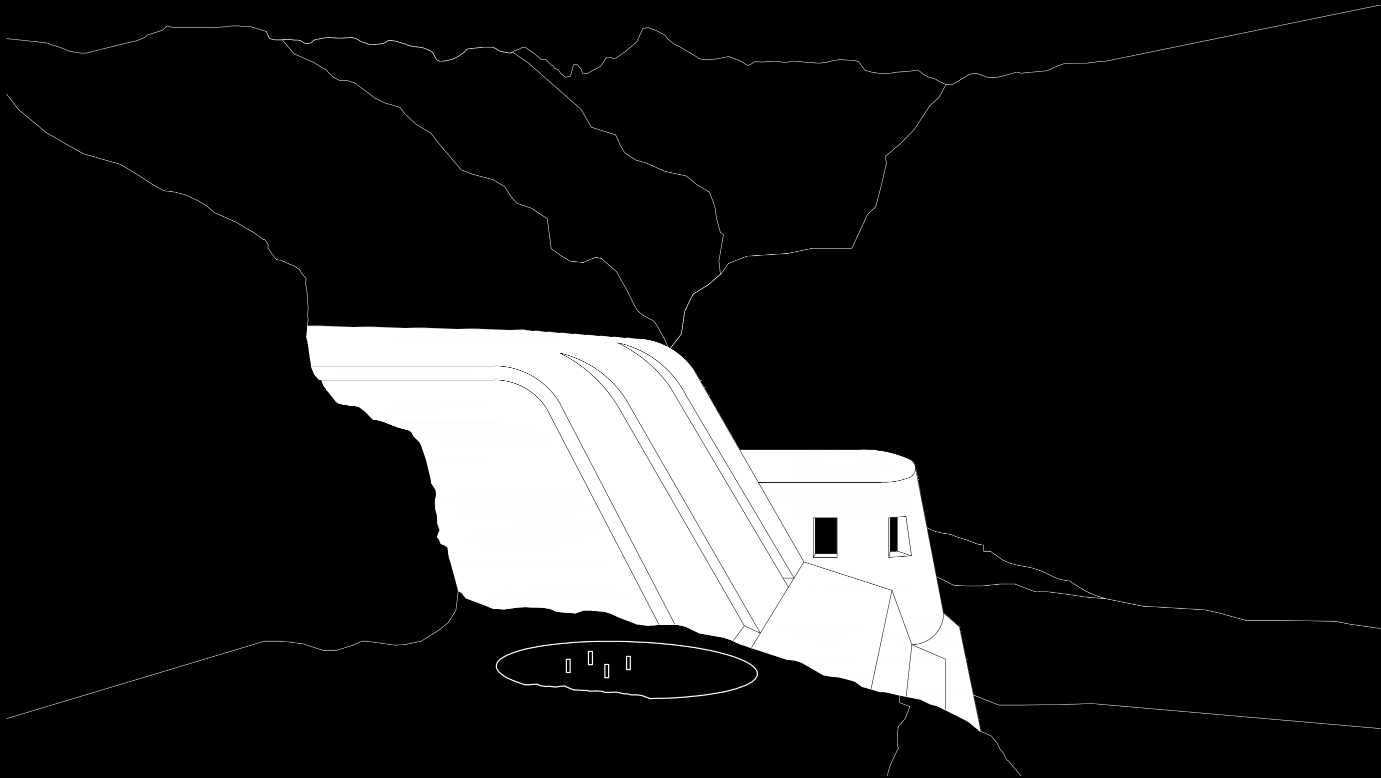
restrained average capacious

heritage value

valuable average null

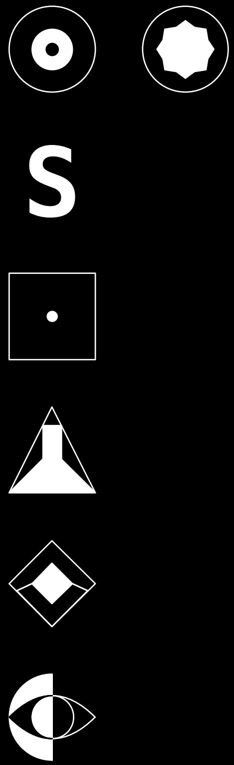
18
GALENHÜTTEN

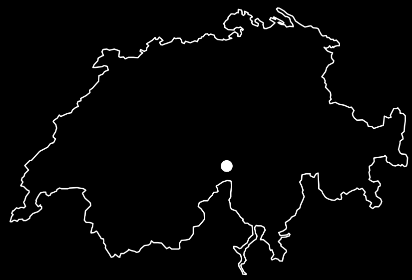
D

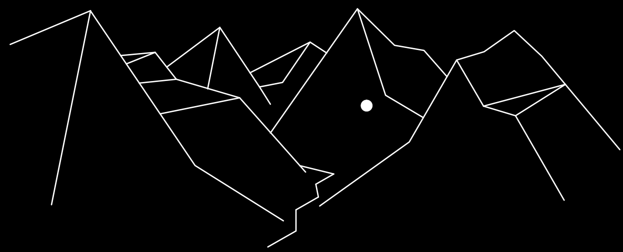


19
GALENSTÖCK

name
Galenstöck
type
Military Cable Car
location
Galenstöck (Furka Pass)
country
CH
canton
UR
commune
6491 Realp
altitude
2405[m]
date of construction
1942
topography
Face
size
S
form
Dot
materiality
Stone, Concrete, Metal
panorama
180°
landscape impact
Passive





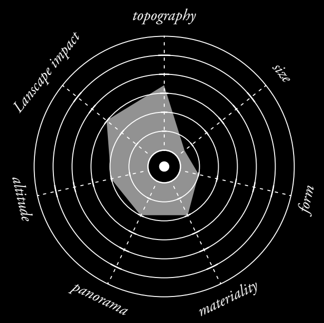


B

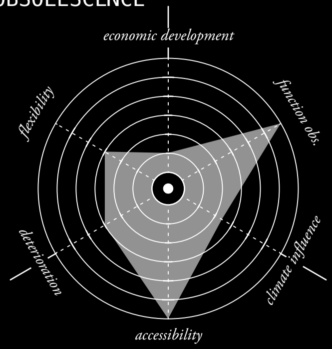
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

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exposed — average — protected

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seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

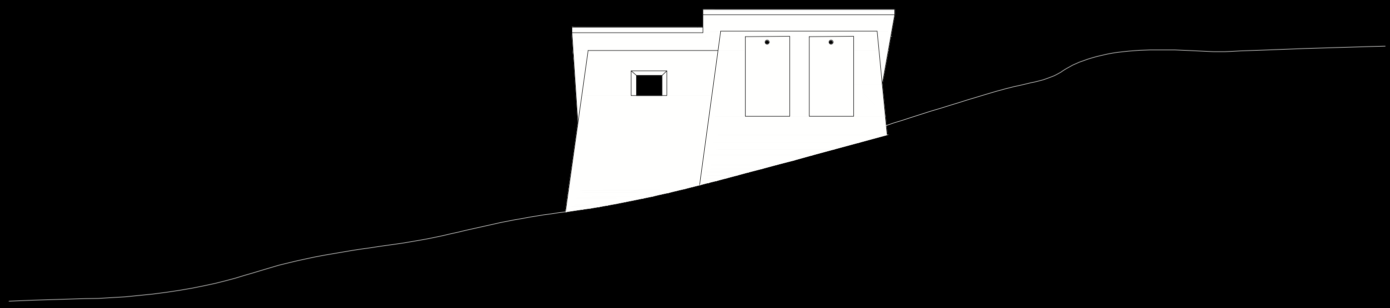
restrained — average — capacious

heritage value

valuable — average — null

19
GALENSTÖCK

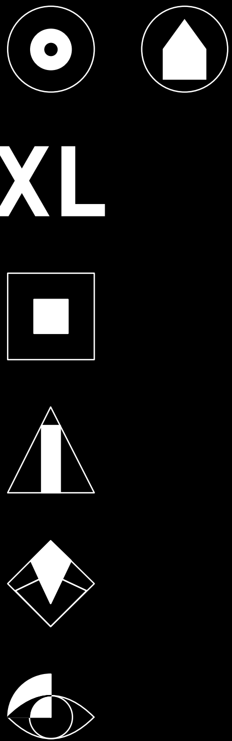
D

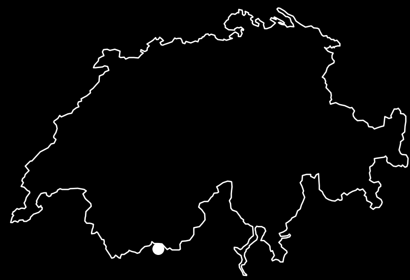


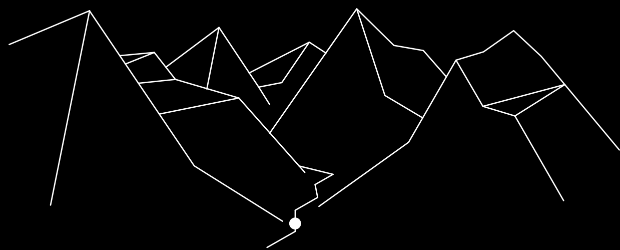
A

20
LA_GRAN_BAITA

name
La Gran Baita
type
Cable Car Station, Hotel
location
Breuil-Cervinia
country
IT
canton
n/a
commune
11021 Breuil-Cervinia
altitude
2020[m]
date of construction
1936
topography
Valley
size
XL
form
Big Box
materiality
Concrete, Plaster, Stone
panorama
90°
landscape impact
Landmark





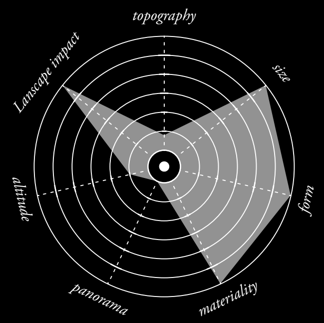


B

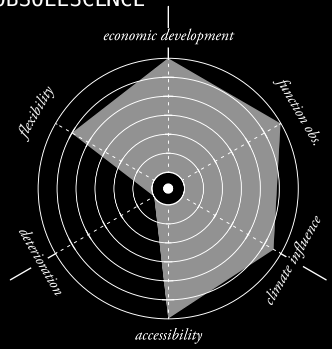
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

FLEXIBILITY

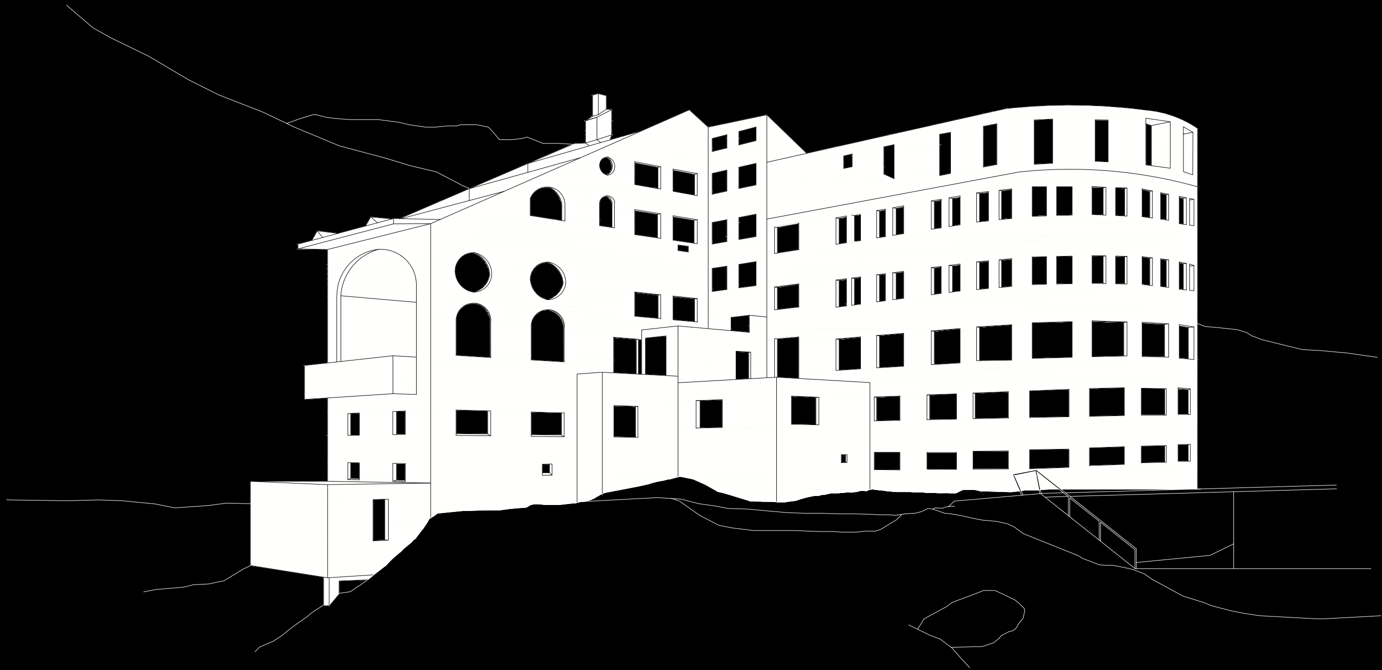
spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

heritage value
valuable — average — null

20
LA_GRAN_BAITA

D

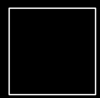


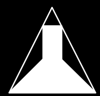
A

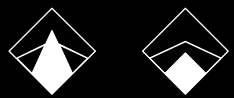
21
GRIMSEL

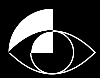
name
AW Grimsel
type
Artillery Fortress
location
Spittelamm (Grimselpass)
country
CH
canton
BE
commune
3864 Guttannen
altitude
1960[m]
date of construction
1941
topography
Underground
size
XL
form
None
materiality
Concrete, Steel, Stone
panorama
90°
landscape impact
Iceberg, Passive

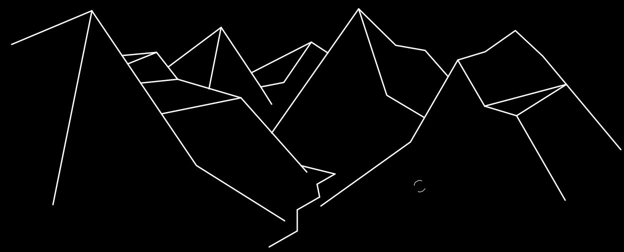
XL









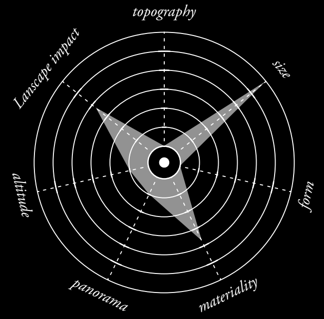


B

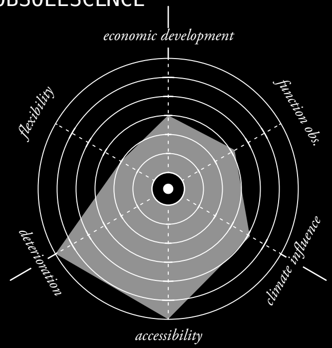
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

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inv — cam — ice — pas — lan

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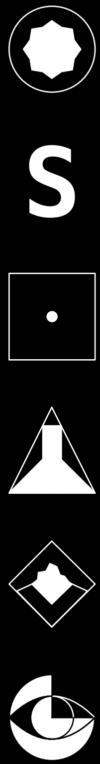
valuable — average — null

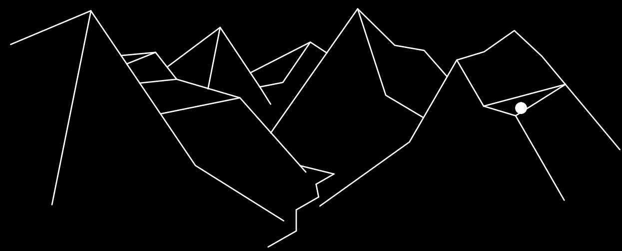
21
GRIMSEL

D

22
GÜTSCH

name
AW Gütsch
type
Artillery Fortification
location
Grätli
country
CH
canton
UR
commune
6490 Andermatt
altitude
2350[m]
date of construction
1942
topography
Shoulder
size
S
form
Dot
materiality
Concrete, Steel, Stone
panorama
270°
landscape impact
Camouflaged

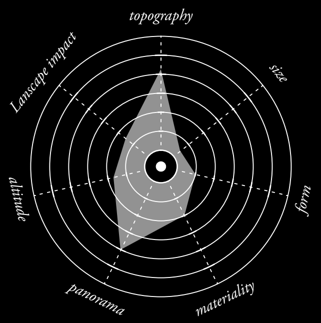




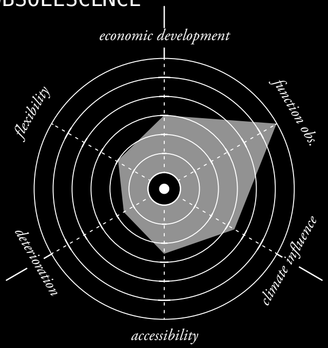
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

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inv — cam — ice — pas — lan

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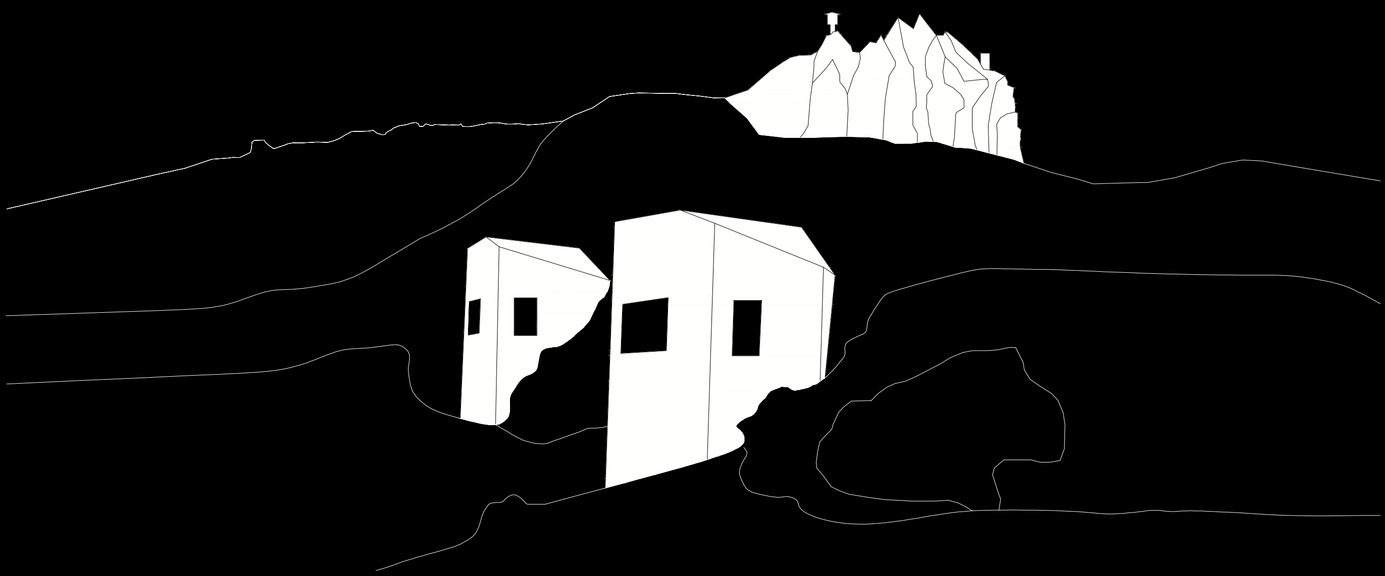
heritage value

valuable — average — null

22
GÜTSCH

D



A

23
HUSEGGHÜTTE

name
Huseegghütte

type
Military Refuge

location
Kleines Sidelhorn

country
CH

canton
BE

commune
3864 Guttannen

altitude
2454[m]

date of construction
1943

topography
High Plateau

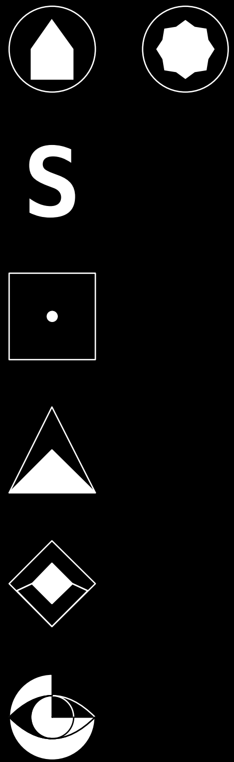
size
S

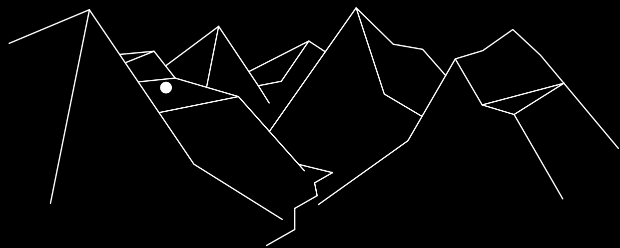
form
Dot

materiality
Stone, Concrete, Wood

panorama
270°

landscape impact
Passive



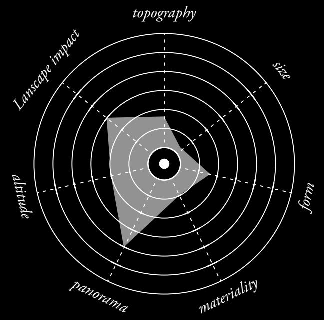


B

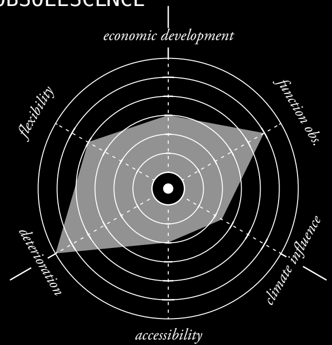
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

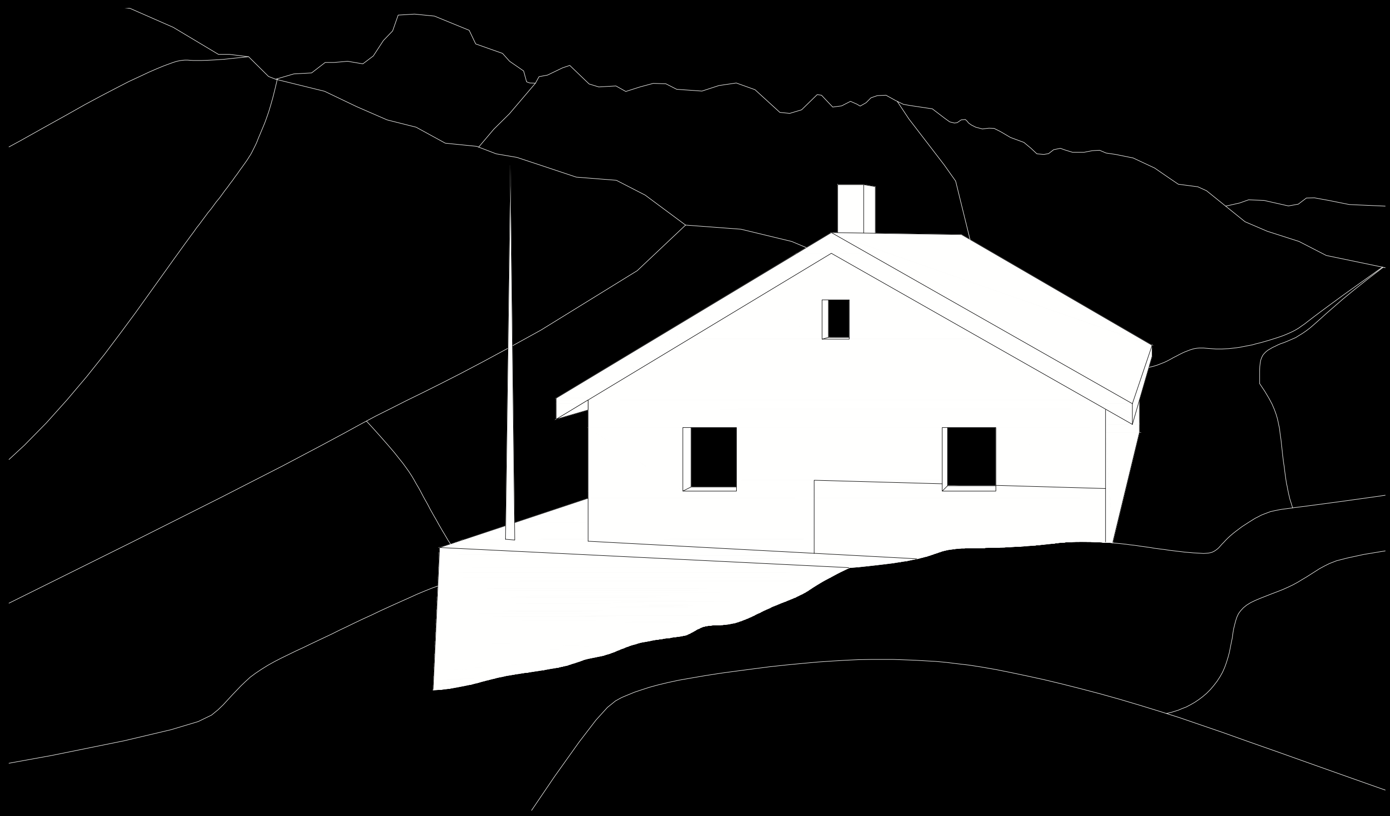
restrained *average* *capacious*

heritage value

valuable *average* *null*

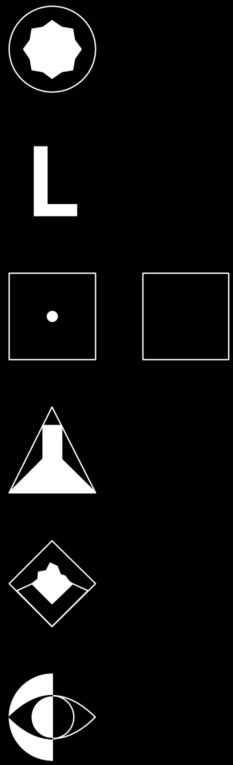
23
HUSEGGHÜTTE

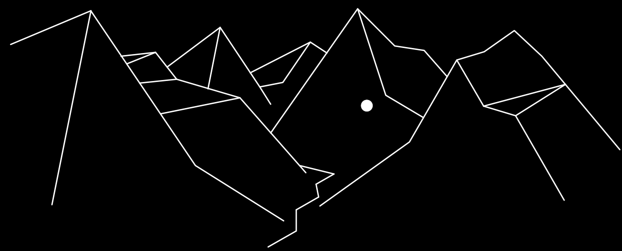
D



24
JULIERPASS

name
Sperrstelle Julier
type
Artillery Fortress
location
Julier Pass
country
CH
canton
GR
commune
7457 Bivio
altitude
2340[m]
date of construction
1946
topography
Face
size
L
form
Dot, None
materiality
Concrete, Steel, Stone
panorama
180°
landscape impact
Camouflaged



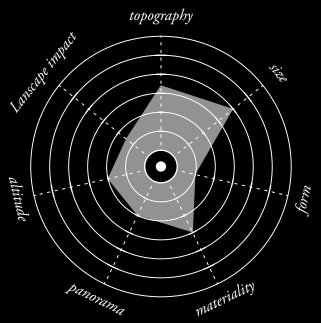


B

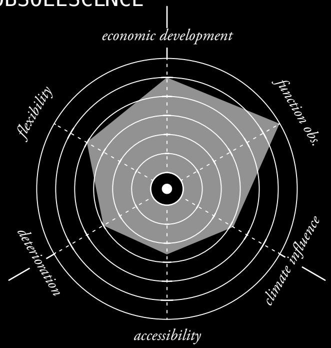
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local *mixed* *imported*

quantity of materials
small *medium* *large*

infrastructural independance
independent *dependent*

means of transportation
f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography
un *va* *pl* *pa* *fa* *sh* *ri* *su*

size
s *m* *l* *xl*

form
none *dot* *big box* *line*

materiality
integrated *mixed* *contrasted*

panorama
90° *180°* *270°* *360°*

altitude
1500 *2500* *3500* *4500*

landscape impact
inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y *0 m/y*

programmatic obsolescence
relevant *average* *obsolete*

technical obsolescence
relevant - n/a *average* *obsolete*

future obsolescence risk
unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions
rough *average* *mild*

hazard exposure
exposed *average* *protected*

seasonal accessibility
seasonable *average* *all year*

altitude
4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection
none *path* *road* *inst.*

distance from access point
>1h *<1h* *0*

vertical difference
>100m *<100m* *0*

DETERIORATION

structure
degraded *average* *intact*

technical installations
degraded *average* *intact - n/a*

FLEXIBILITY

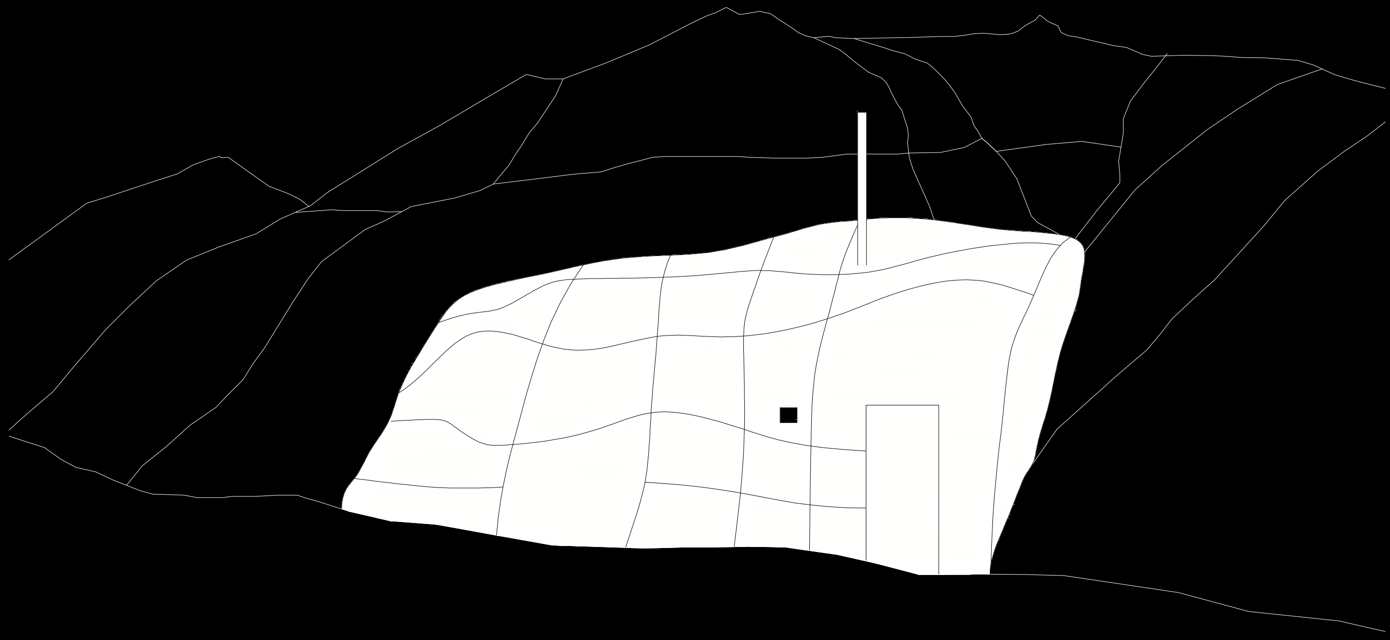
spatial complexity
complex *average* *elementary*

capacity
restrained *average* *capacious*

heritage value
valuable *average* *null*

24
JULIERPASS

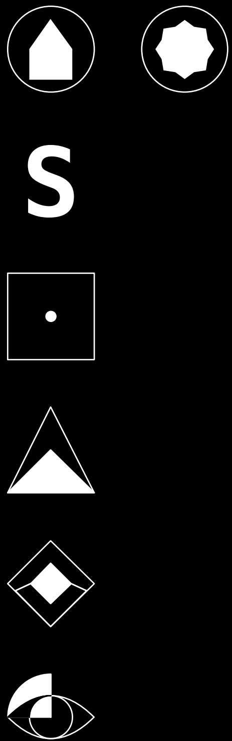
D

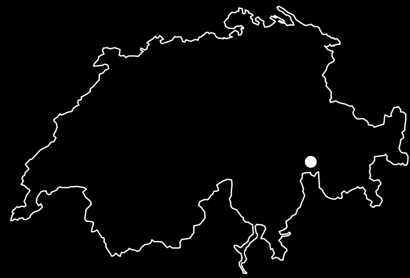


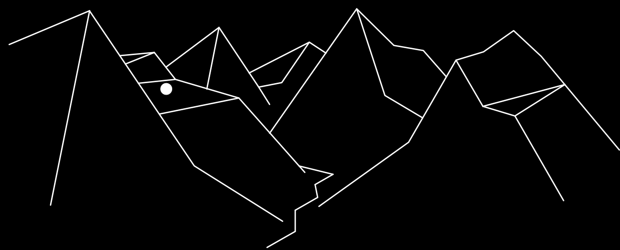
A

25
LAI_DA_VONS

name
Sperrstelle Lai Da Vons
type
Military Refuge
location
Lai Da Vons
country
CH
canton
GR
commune
7440 Andeer
altitude
2048[m]
date of construction
1942
topography
High Plateau
size
S
form
Dot
materiality
Stone, Concrete, Wood
panorama
90°
landscape impact
Passive



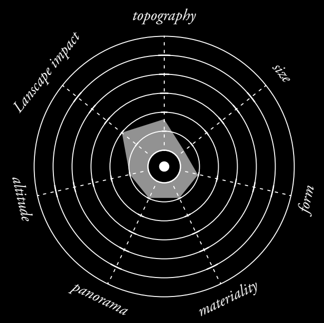




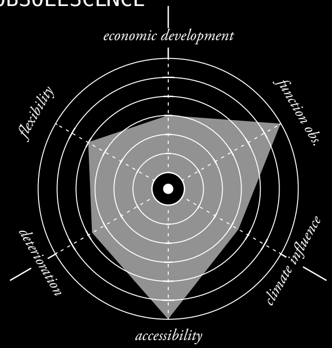
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

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technical obsolescence

relevant - n/a — average — obsolete

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unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

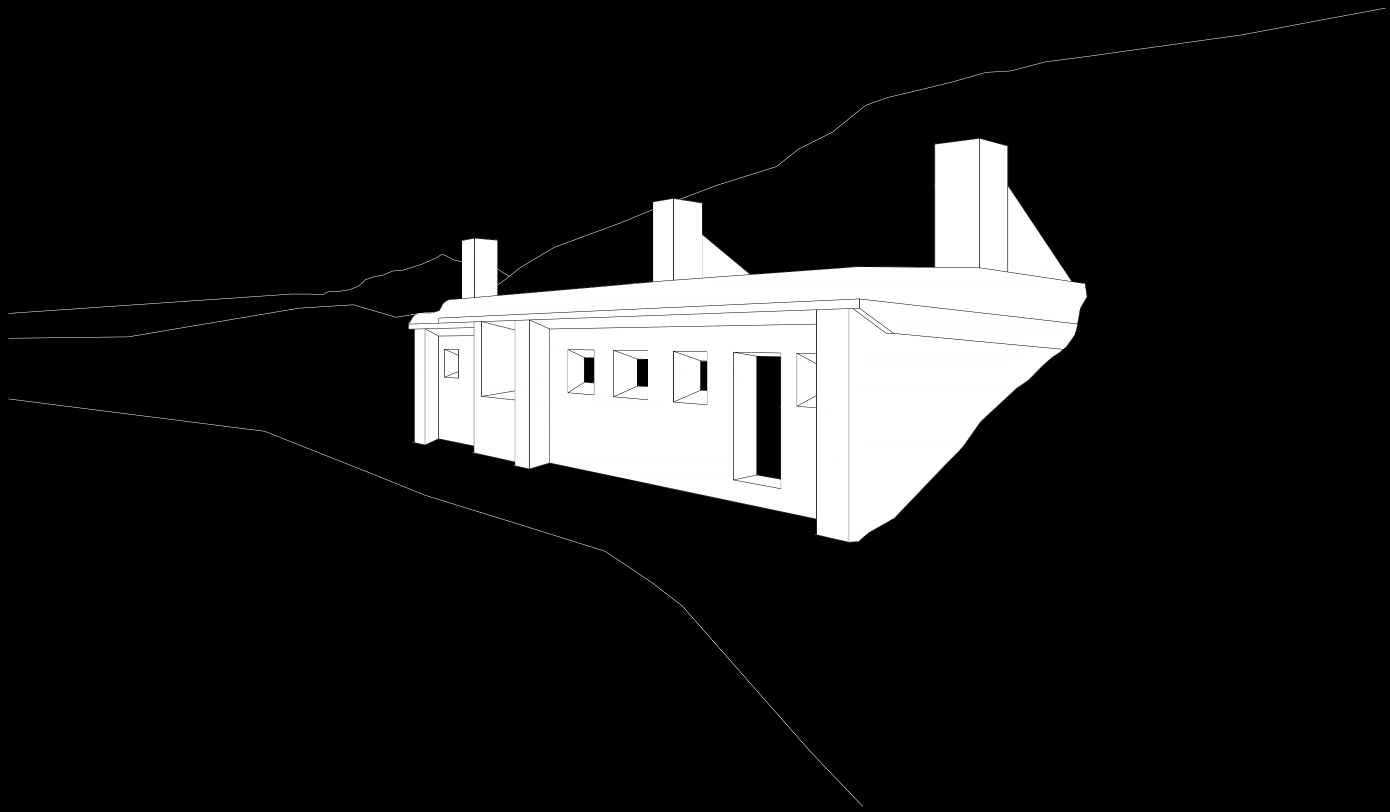
restrained — average — capacious

heritage value

valuable — average — null

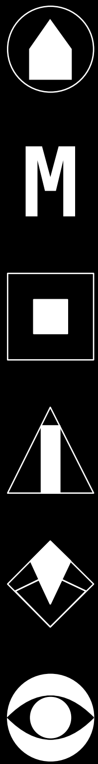
25
LAI_DA_VONS

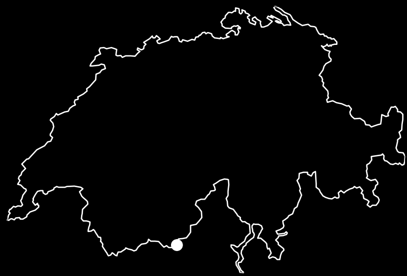
D

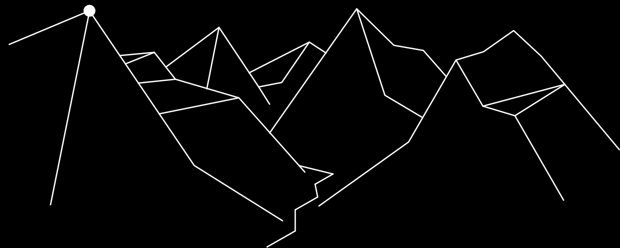


26
MARGARITA

name
Capanna Regina Margarita
type
Hut, Research Station
location
Punta Gnifetti
country
CH, IT
canton
VS
commune
3920 Zermatt
altitude
4554[m]
date of construction
1893
topography
Summit
size
M
form
Big Box
materiality
Metal, Wood
panorama
360°
landscape impact
Landmark





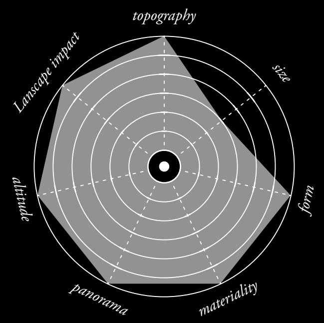


B

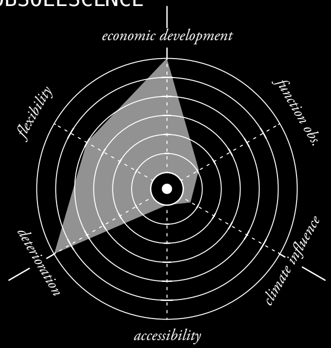
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

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climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

restrained — average — capacious

heritage value

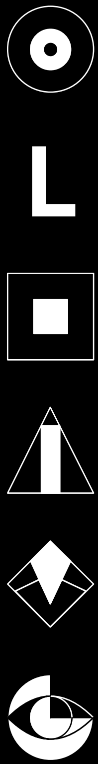
valuable — average — null

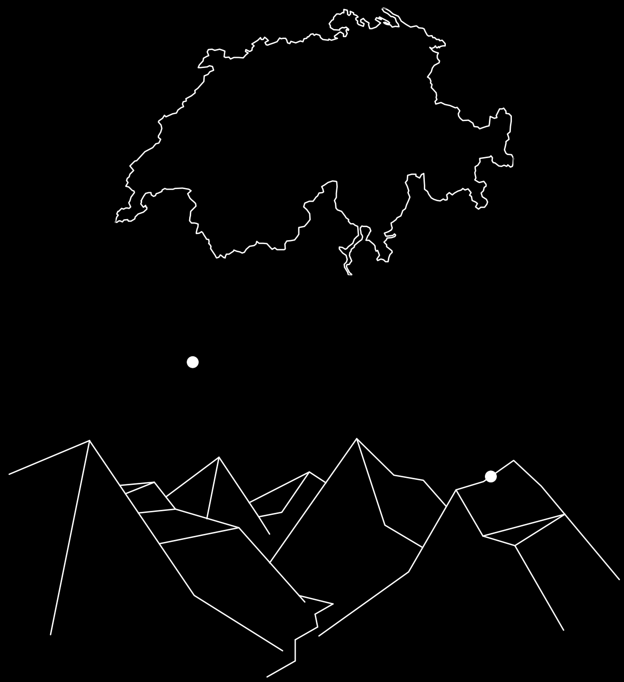
26
MARGARITA

D

27
MONTE_SISES

name
Funivia Monte Sises
type
Cable Car Station
location
Monte Sises
country
IT
canton
n/a
commune
10058 Sestriere
altitude
2628[m]
date of construction
1932
topography
Ridge
size
L
form
Big Box
materiality
Concrete, Plaster, Metal
panorama
270°
landscape impact
Landmark



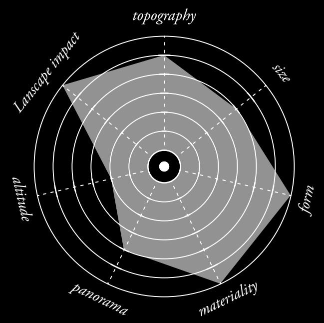


B

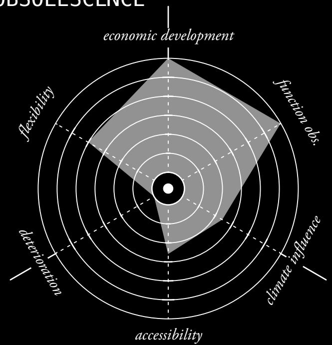
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

FLEXIBILITY

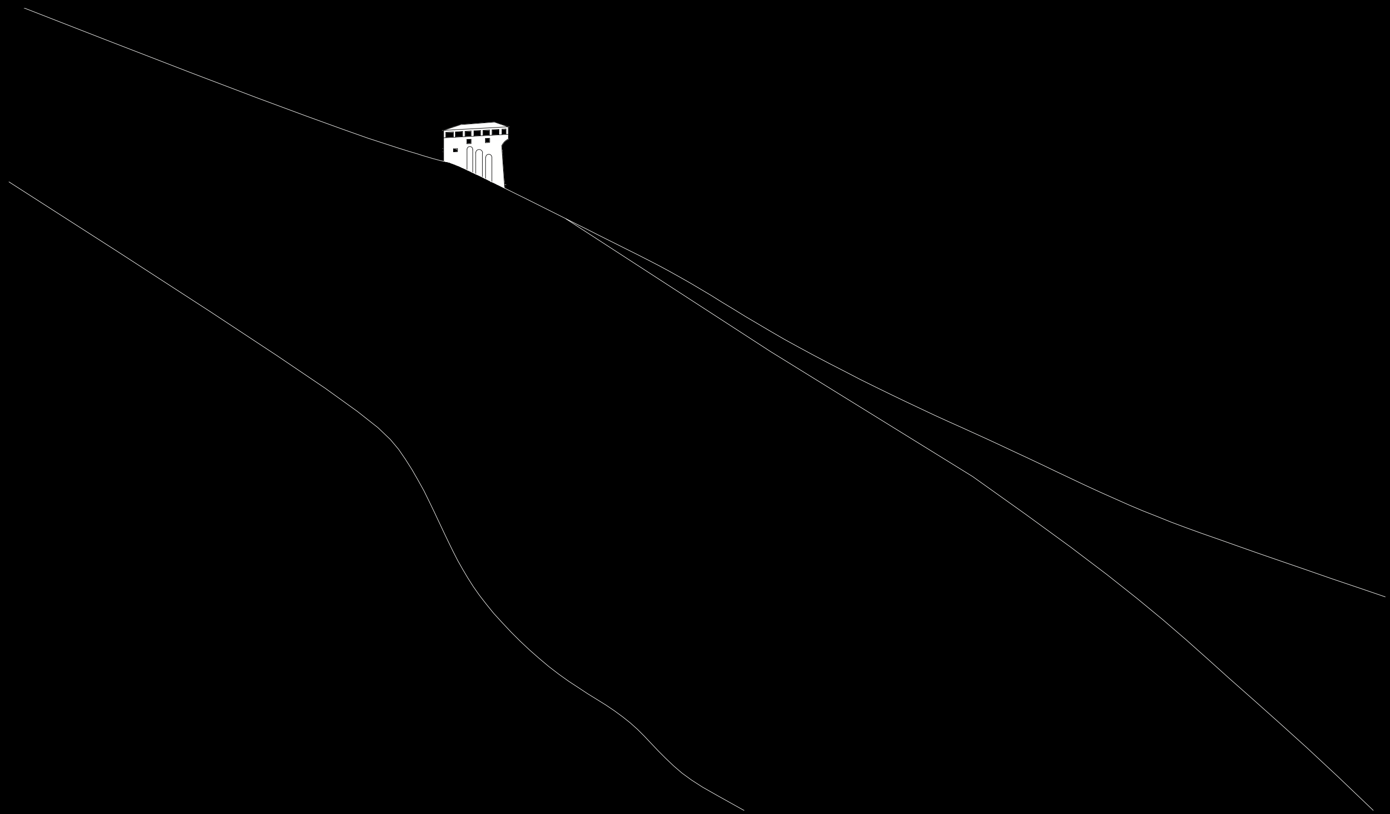
spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

heritage value
valuable — average — null

27
MONTE_SISES

D



A

28 MORGETEGRAT

name
IW Morgetepass

type
Infantry Bunker

location
Schibespitz

country
CH

canton
BE

commune
3764 weissenburg

altitude
2035[m]

date of construction
1942

topography
Ridge

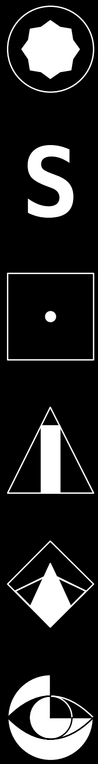
size
S

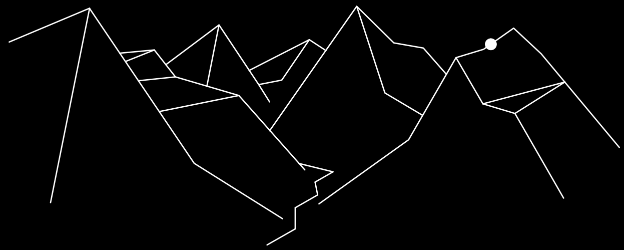
form
Dot

materiality
Concrete, Steel

panorama
270°

landscape impact
Iceberg



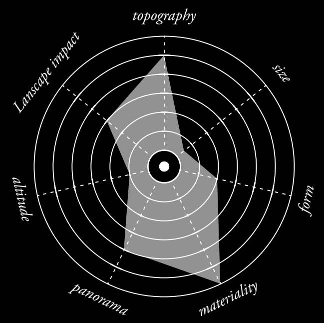


B

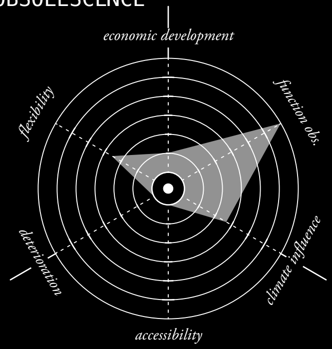
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



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means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

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none — path — road — inst.

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>1h — <1h — 0

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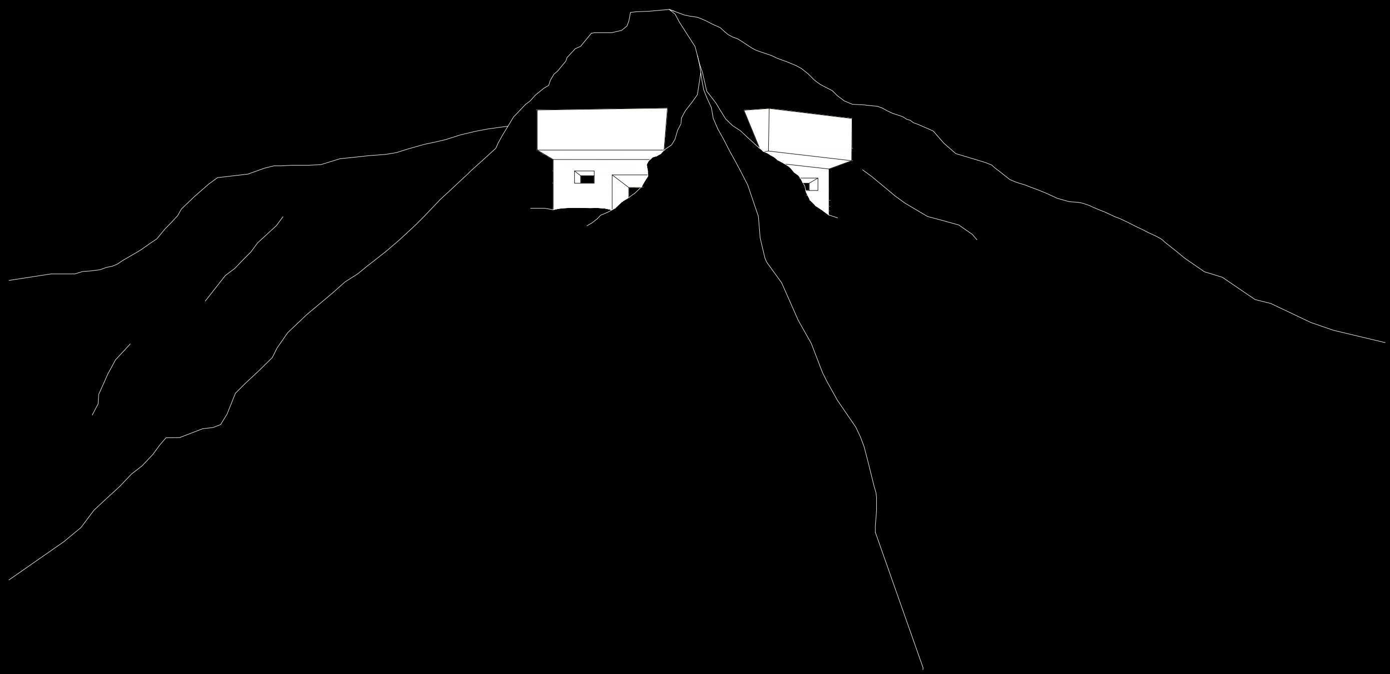
28
MORGETEGRAT

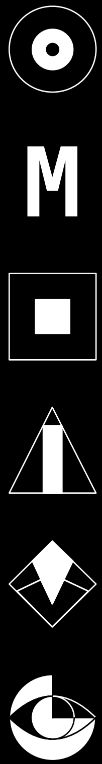
D

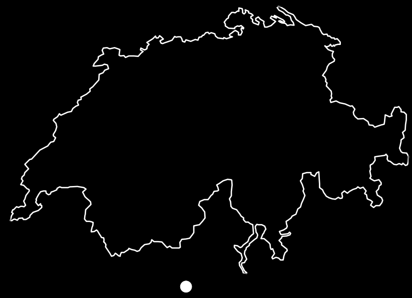


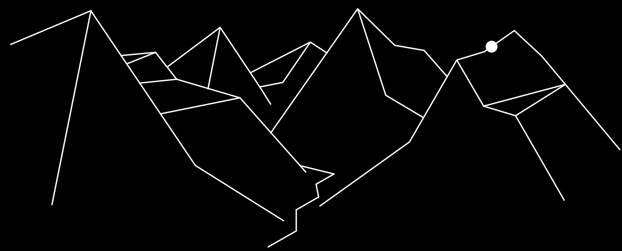
A

29
OROPA

name
Funivia Oropa–Mucrone
type
Cable Car Station
location
Monte Mucrone
country
IT
canton
n/a
commune
13814 Pollone Biella
altitude
2191[m]
date of construction
1982
topography
Ridge
size
M
form
Big Box
materiality
Brick, Plaster, Concrete
panorama
270°
landscape impact
Landmark



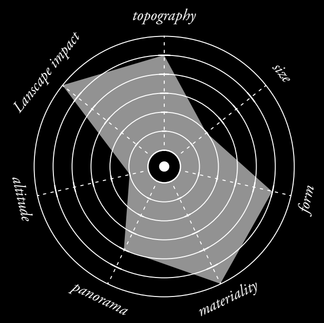




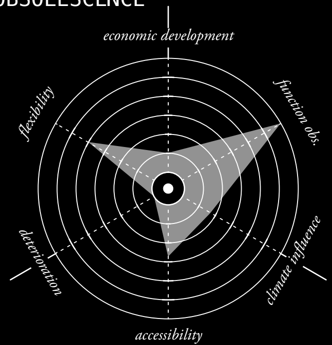
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

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small — medium — large

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independent — dependent

means of transportation

f & h — cc — r&a — h

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size

s — m — l — xl

form

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materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

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4500 — 3500 — 2500 — 1500

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>100m — <100m — 0

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structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

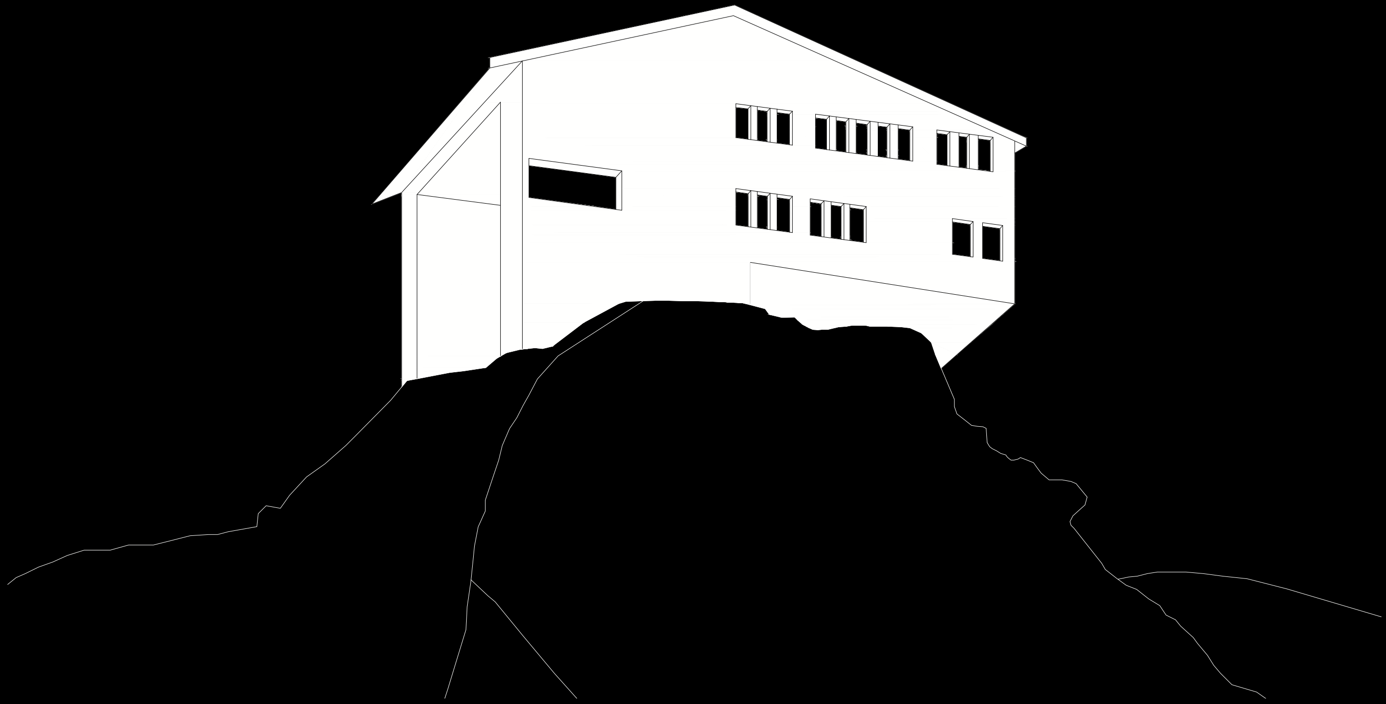
restrained — average — capacious

heritage value

valuable — average — null

29
OROPA

D

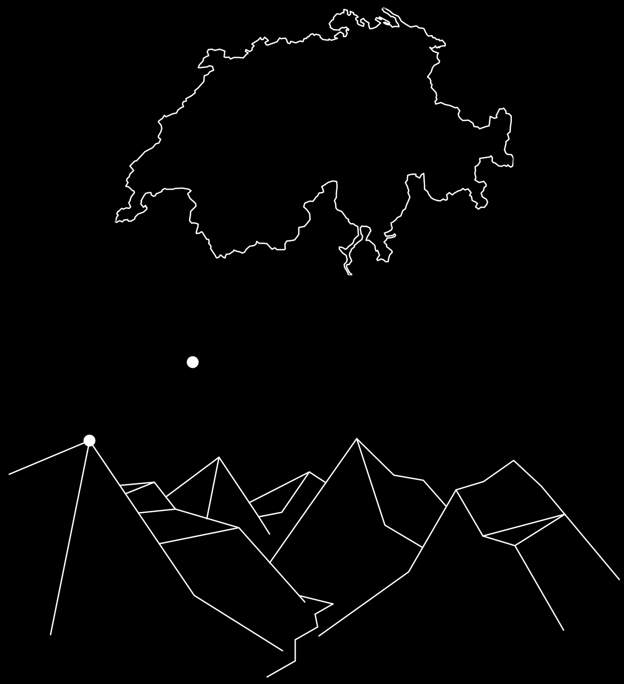


A

30
OSSERVATORIO

name
Osservatorio Monte Sises
type
Observatory
location
Monte Sises
country
IT
canton
n/a
commune
10058 Sestriere
altitude
2658[m]
date of construction
1931
topography
Summit
size
S
form
Dot
materiality
Concrete
panorama
360°
landscape impact
Passive

S

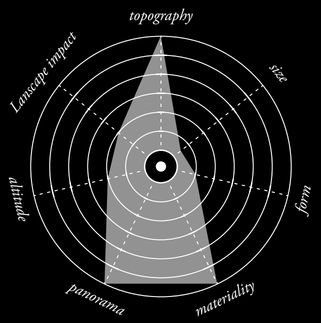


B

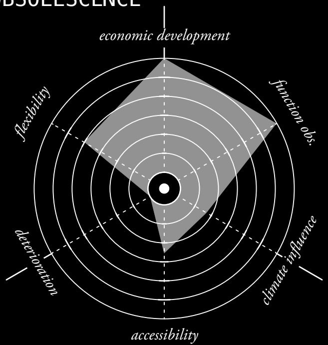
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

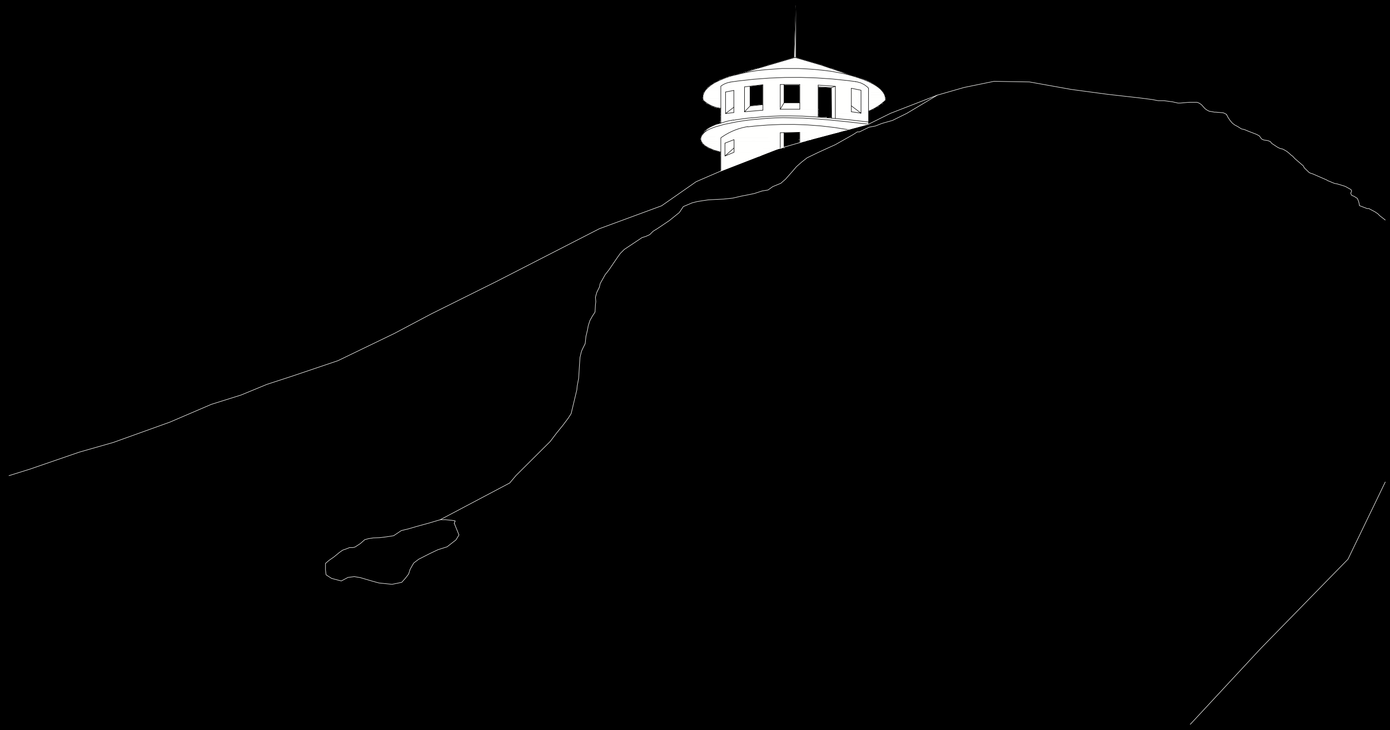
capacity

restrained — average — capacious

heritage value

valuable — average — null

30
OSSERVATORIO *D*



A

31
PALACE_MÜRREN

name
Palace Mürren

type
Hotel

location
Lauterbrunnental

country
CH

canton
BE

commune
3825 Mürren

altitude
1652[m]

date of construction
1884

topography
Shoulder

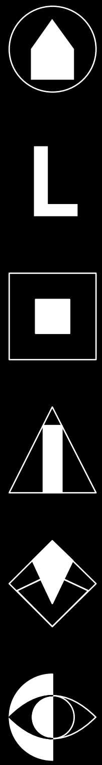
size
L

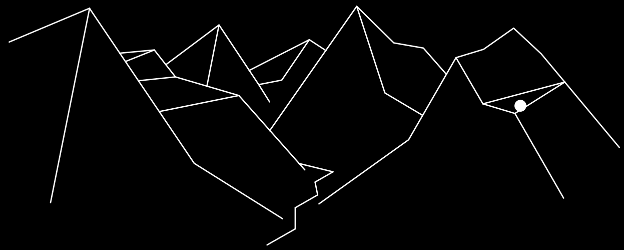
form
Big Box

materiality
Ciment, Plaster, Metal

panorama
180°

landscape impact
Landmark

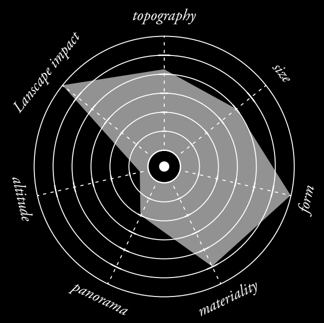




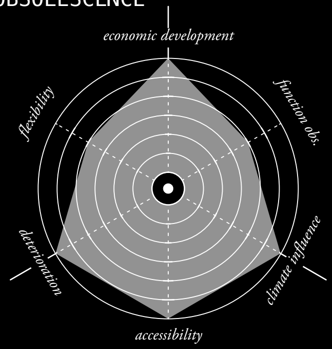
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

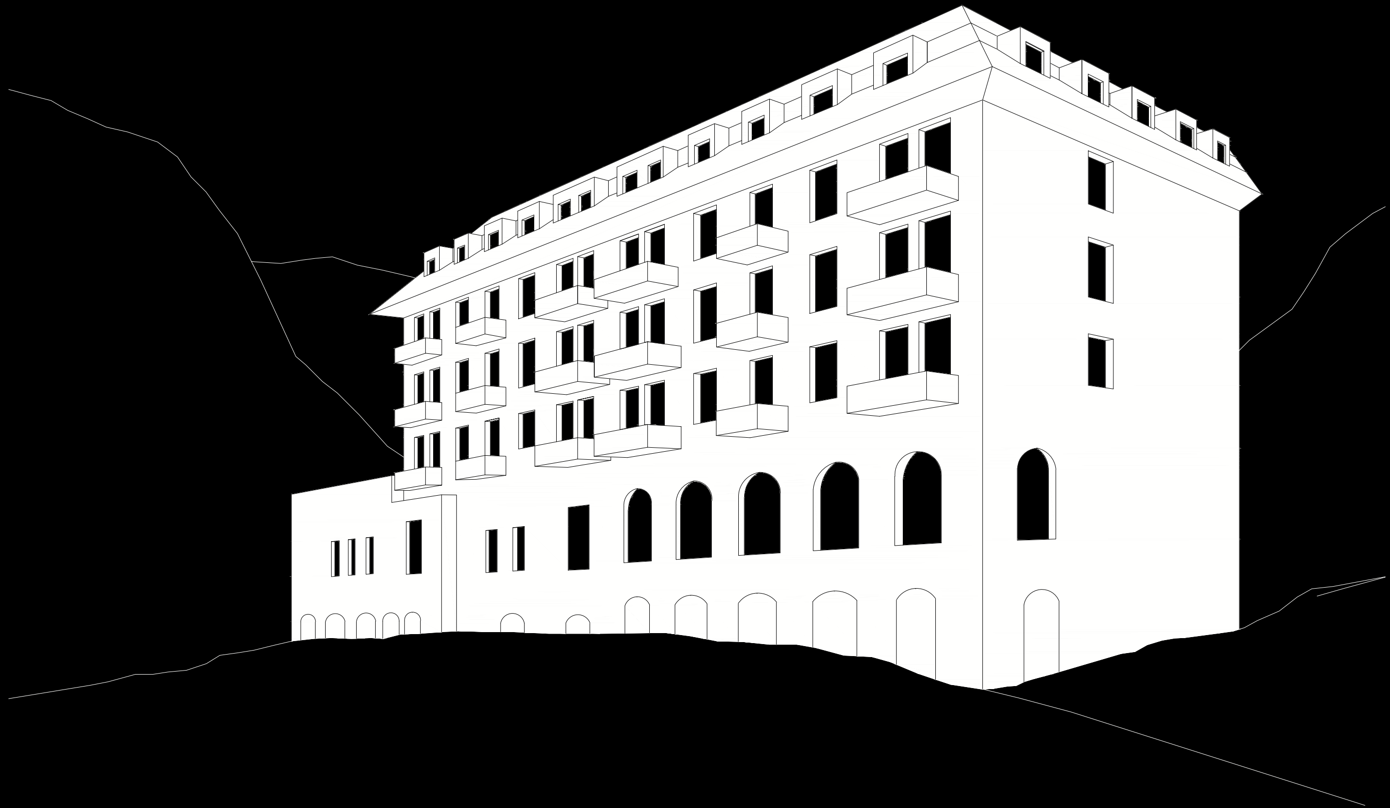
restrained — average — capacious

heritage value

valuable — average — null

31
PALACE_MÜRREN

D



32
A PETIT_ST·BERNARD

name
Petit St. Bernard

type
Hospice

location
Petit St. Bernard Pass

country
FR, IT

canton
n/a

commune
73700 Séez

altitude
2188[m]

date of construction
1752

topography
Pass

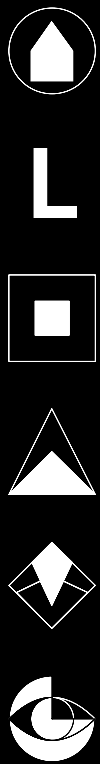
size
L

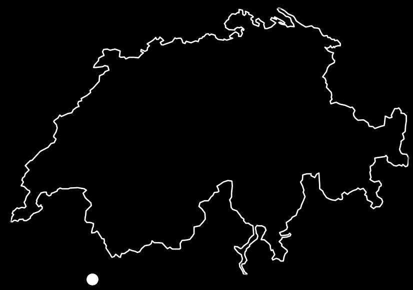
form
Big Box

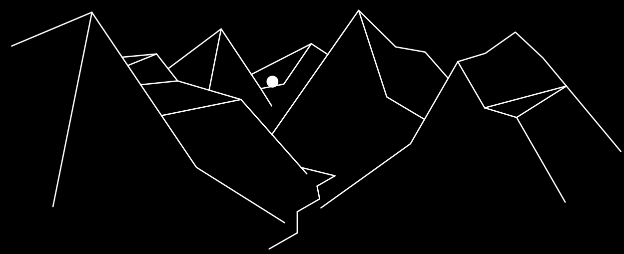
materiality
Limestone, Plaster, Wood

panorama
270°

landscape impact
Landmark





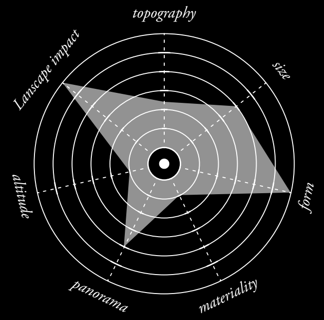


B

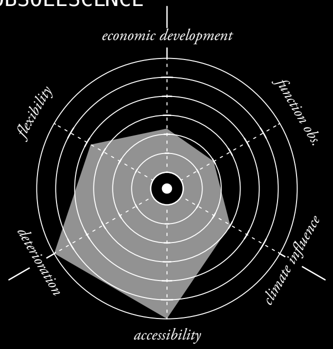
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

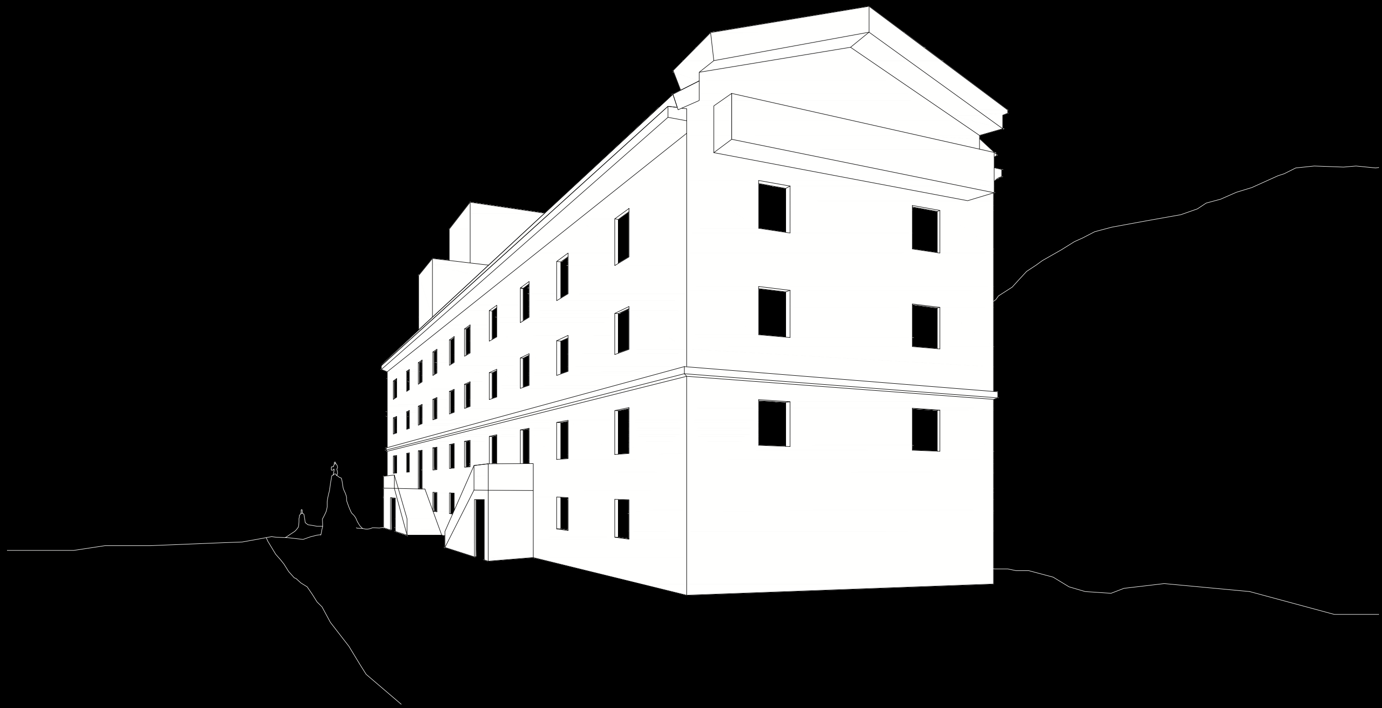
restrained *average* *capacious*

heritage value

valuable *average* *null*

32

PETIT_ST·BERNARD *D*



A

33
PIZZO_BIANCO

name
Funivia del Pizzo Bianco

type
Cable Car Station

location
Piani Alti

country
IT

canton
n/a

commune
28876 Macugnaga

altitude
2190[m]

date of construction
1964

topography
Shoulder

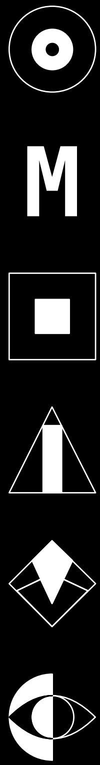
size
M

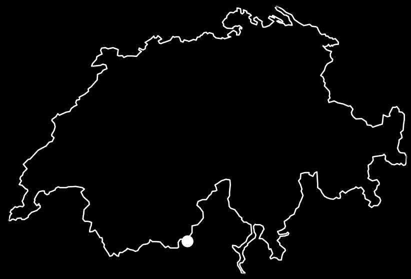
form
Big Box

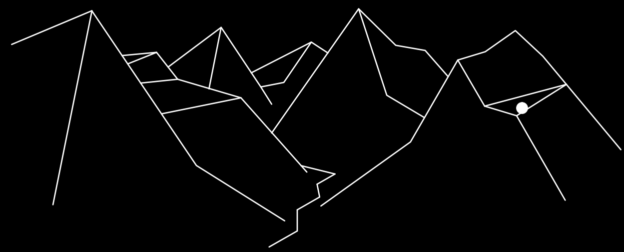
materiality
Concrete, Metal

panorama
180°

landscape impact
Landmark



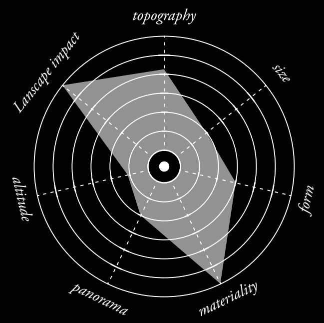




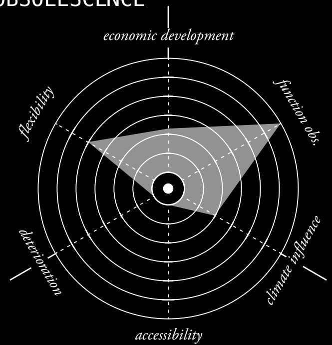
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

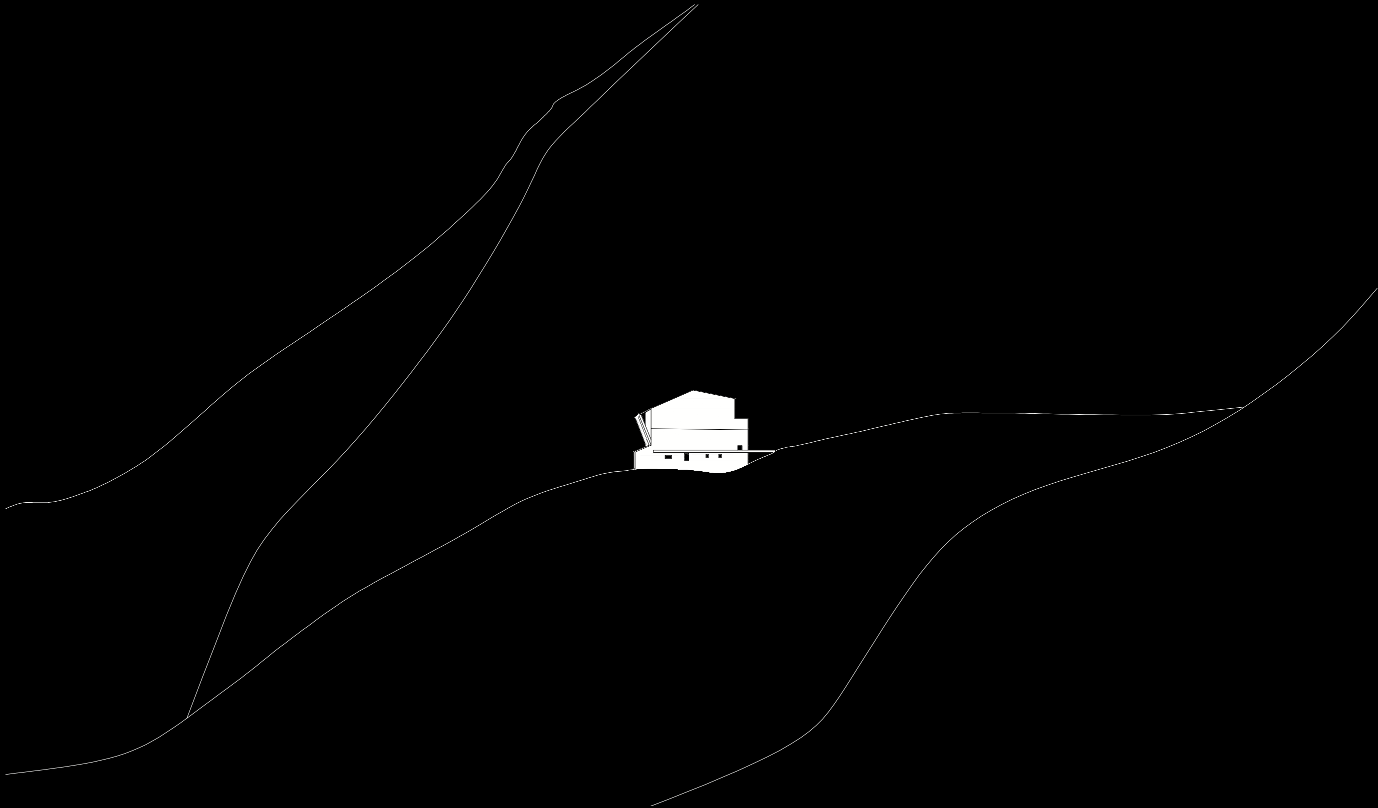
restrained *average* *capacious*

heritage value

valuable *average* *null*

33
PIZZO BIANCO

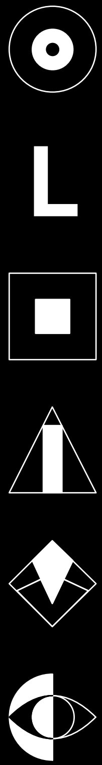
D

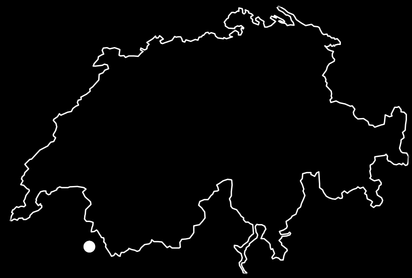


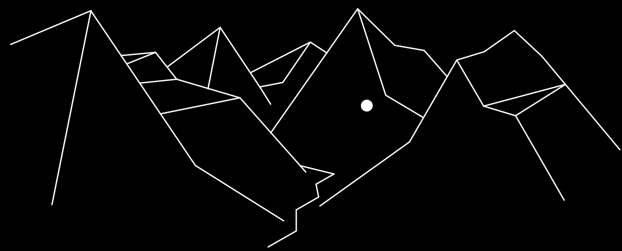
A

34
PLANPRAZ

name
Télépherique de Planpraz
type
Cable Car
location
Planpraz
country
FR
canton
n/a
commune
74400 Chamonix
altitude
1987[m]
date of construction
1928
topography
Face
size
L
form
Big Box
materiality
Brick, Concrete, Metal
panorama
180°
landscape impact
Landmark





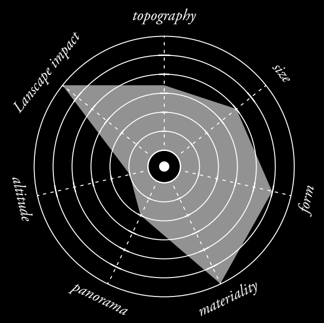


B

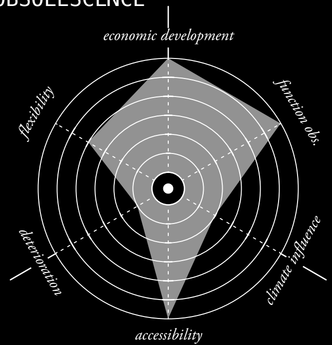
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT
source of materials
local mixed imported

quantity of materials
small medium large

infrastructural independance
independent dependent

means of transportation
f & h cc r&a h

PHENOMENOLOGY
topography
un va pl pa fa sh ri su

size
s m l xl

form
none dot big box line

materiality
integrated mixed contrasted

panorama
90° 180° 270° 360°

altitude
1500 2500 3500 4500

landscape impact
inv cam ice pas lan

Obsolescence values

ECONOMIC DEVELOPMENT
economic development
static average dynamic

FUNCTION OBSOLESCENCE
frequency of occupation
12 m/y 0 m/y

programmatic obsolescence
relevant average obsolete

technical obsolescence
relevant - n/a average obsolete

future obsolescence risk
unknown near future imminent

CLIMATE INFLUENCE
climate conditions
rough average mild

hazard exposure
exposed average protected

seasonal accessibility
seasonable average all year

altitude
4500 3500 2500 1500

ACCESSIBILITY
infrastructure connection
none path road inst.

distance from access point
>1h <1h 0

vertical difference
>100m <100m 0

DETERIORATION
structure
degraded average intact

technical installations
degraded average intact - n/a

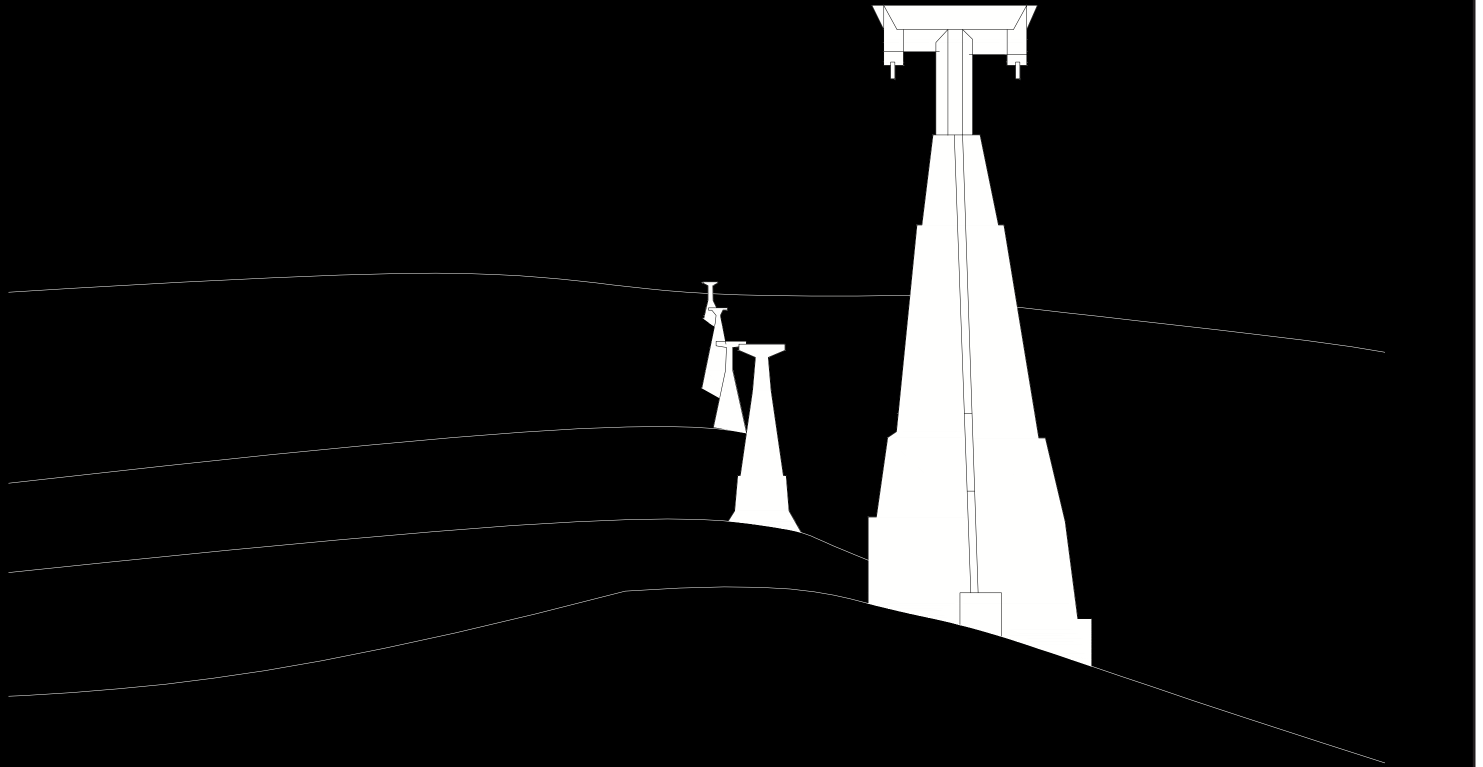
FLEXIBILITY
spatial complexity
complex average elementary

capacity
restrained average capacious

heritage value
valuable average null

34
PLANPRAZ

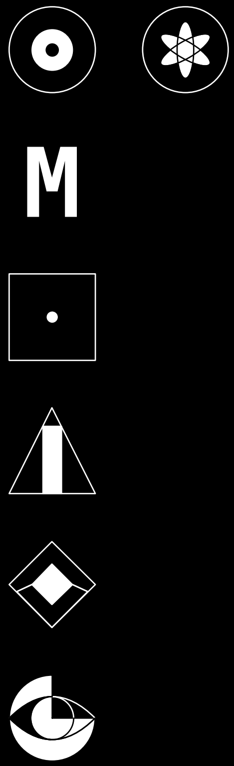
D

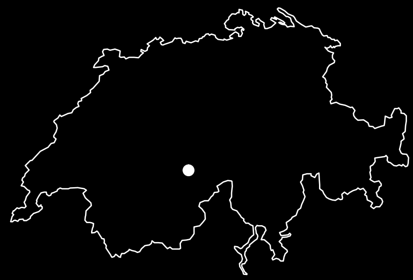


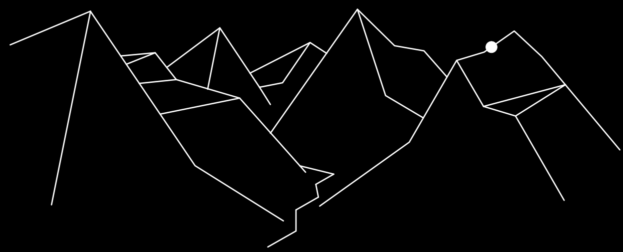
A

35
RADIO_RELAY

name
Swisscom Radio Relay
type
Radio & Weather Station
location
Jungfraujoch
country
CH
canton
BE
commune
3823 Wengen
altitude
3705[m]
date of construction
1954
topography
Ridge
size
M
form
Dot
materiality
Steel, Wood, Stone
panorama
270°
landscape impact
Passive



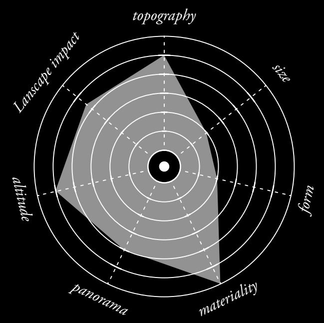




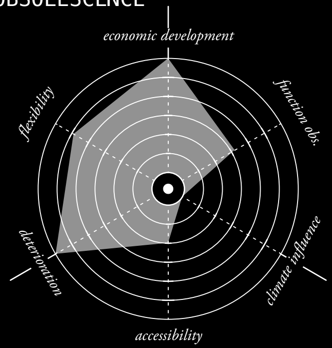
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

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climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

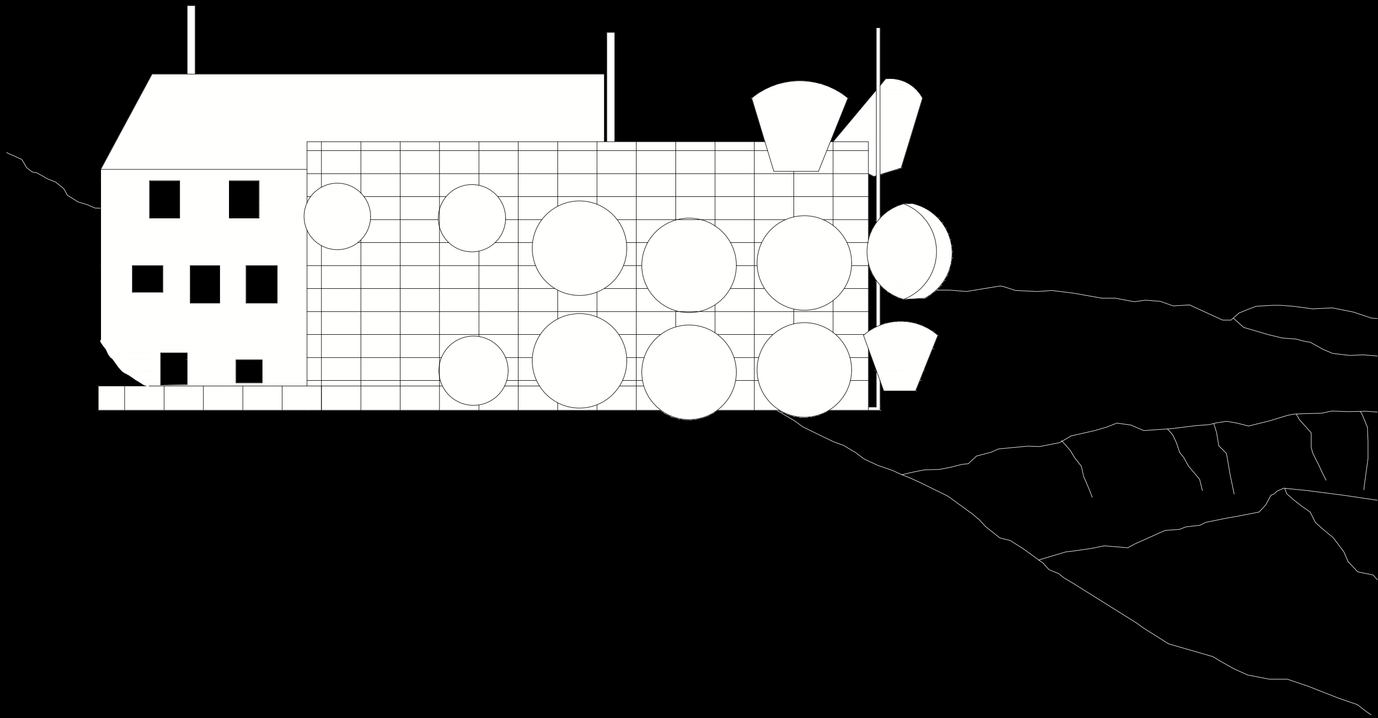
restrained *average* *capacious*

heritage value

valuable *average* *null*

35
RADIO_RELAY

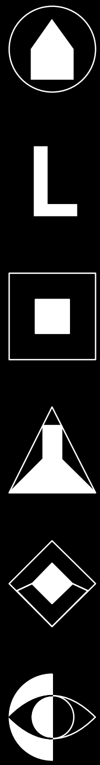
D

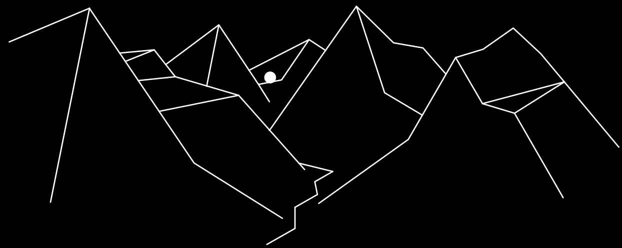


A

36
REFUGE_FURKA

name
Refuge Furka
type
Hotel Outbuilding
location
Furka Pass
country
CH
canton
UR
commune
6491 Realp
altitude
2432[m]
date of construction
1905
topography
Pass
size
L
form
Big Box
materiality
Concrete, Wood, Plaster
panorama
180°
landscape impact
Passive



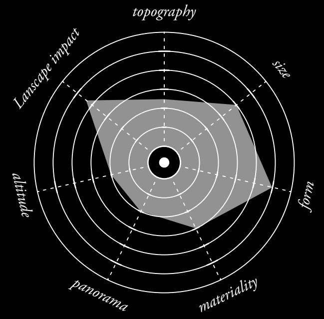



REFUGE FURKA

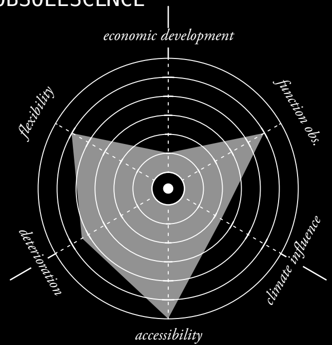
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

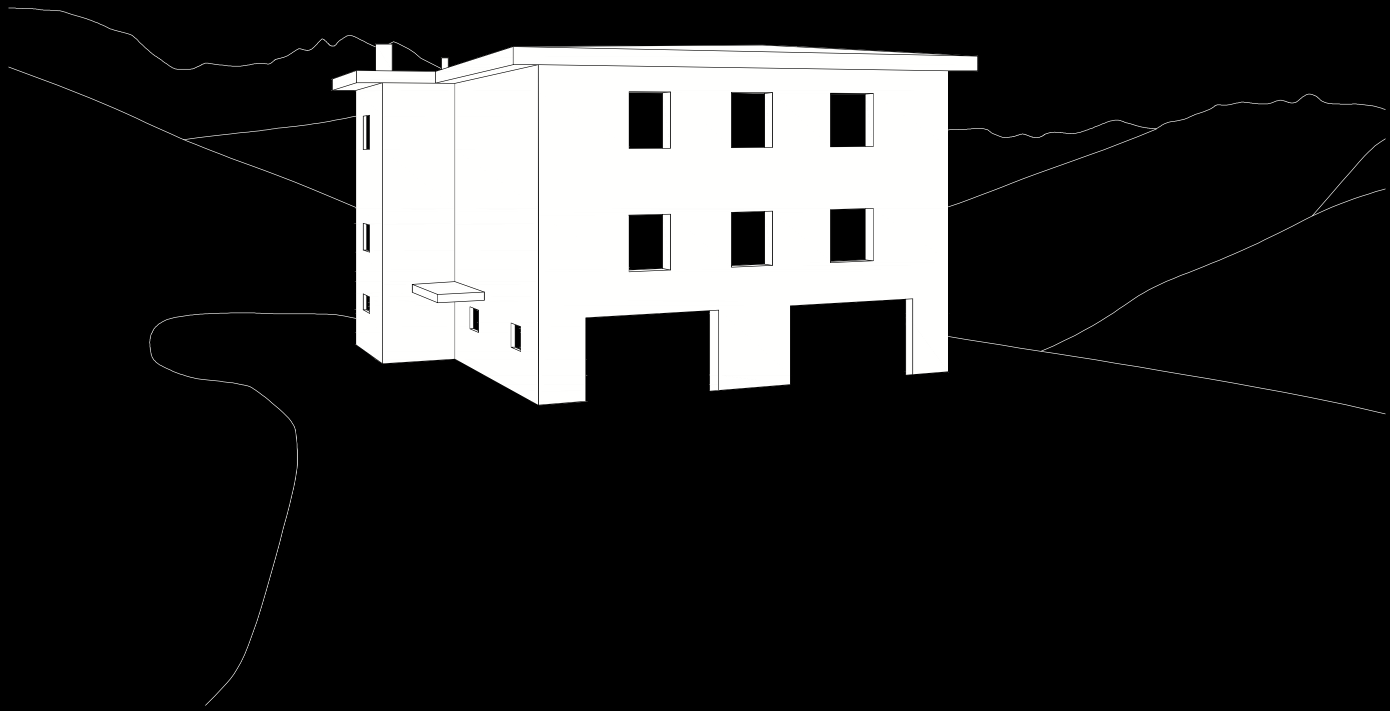
restrained — average — capacious

heritage value

valuable — average — null

36
REFUGE_FURKA

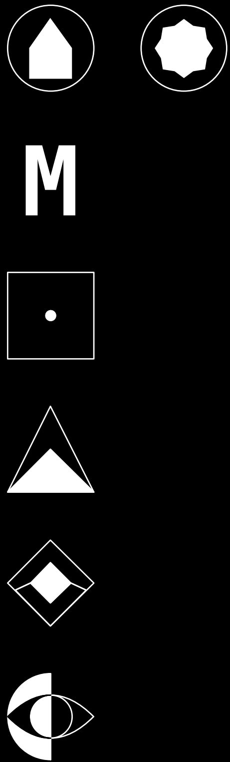
D

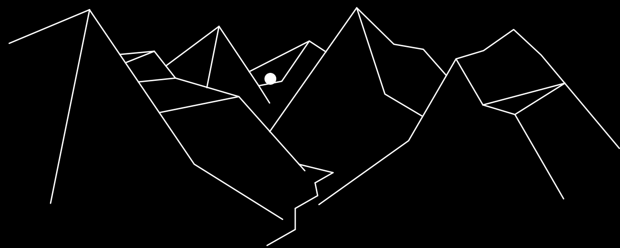


A

37
REFUGE_SUSTEN

name
Refuge Susten
type
Military Refuge
location
Susten Pass
country
CH
canton
BE
commune
784 Innertkirchen
altitude
2249[m]
date of construction
1945
topography
Pass
size
M
form
Dot
materiality
Stone, Concrete, Wood
panorama
180°
landscape impact
Passive

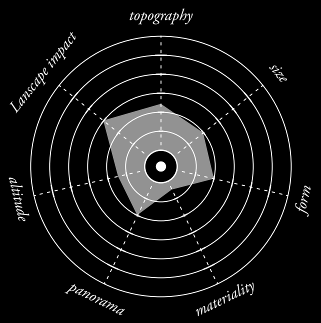




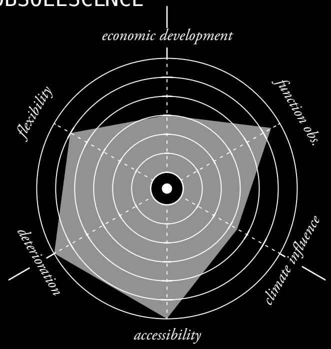
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

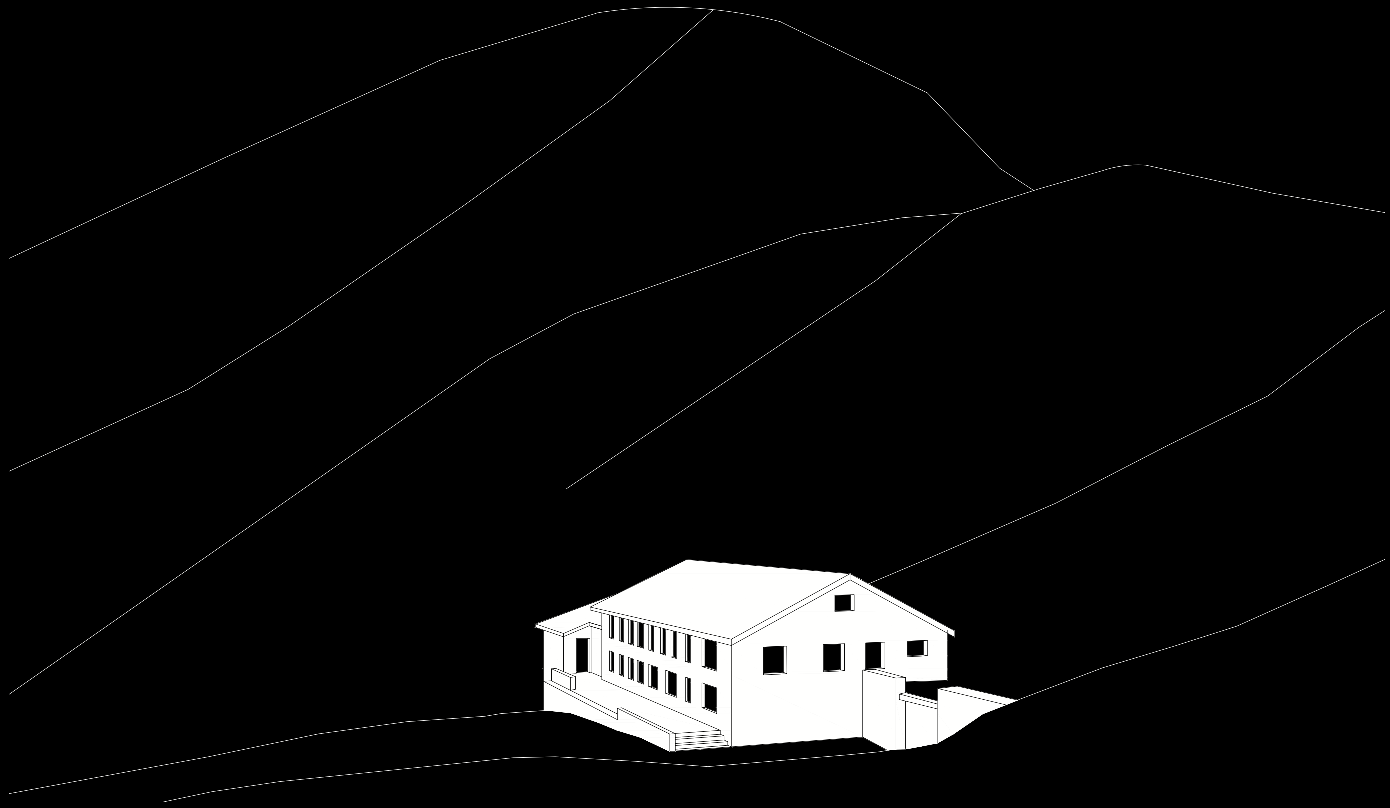
restrained — average — capacious

heritage value

valuable — average — null

37
REFUGE_SUSTEN

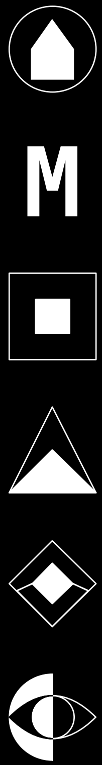
D

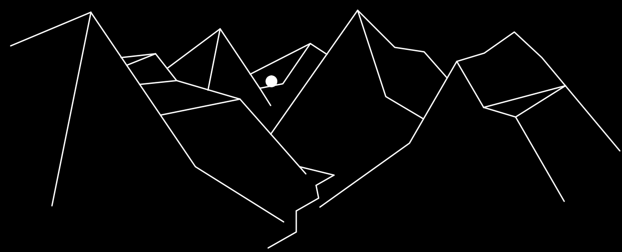


A

38
SAN_BERNARDINO

name
Ospizio San Bernardino
type
Hospice
location
San Bernardino Pass
country
CH
canton
GR
commune
6565 San Bernardino
altitude
2066[m]
date of construction
1823
topography
Pass
size
M
form
Big Box
materiality
Stone, Plaster, Wood
panorama
180°
landscape impact
Passive



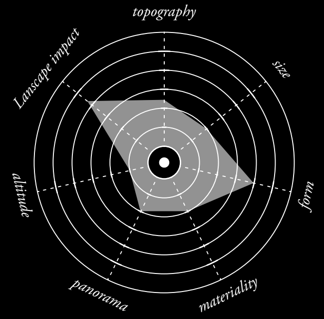



RISTORANTE S.B. OSPIZIO

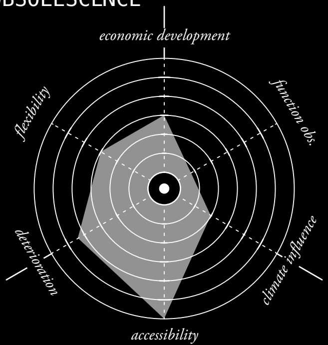
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

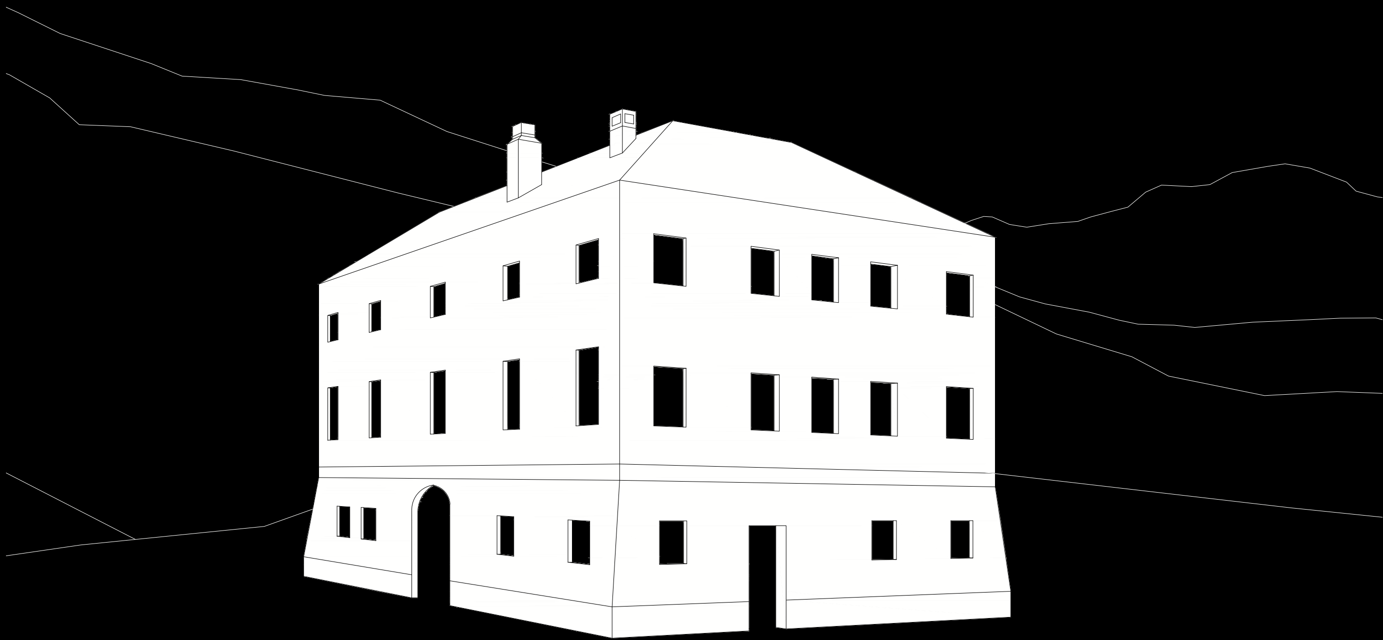
capacity

restrained *average* *capacious*

heritage value

valuable *average* *null*

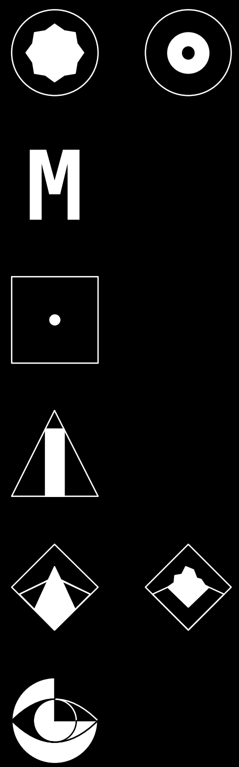
38
SAN_BERNARDINO D

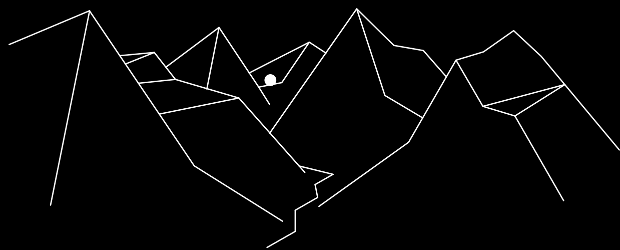


A

39
SAN_GIACOMO

name
Sperrstelle San Giacomo
type
Fortification, Cable Car
location
San Giacomo
country
CH
canton
TI
commune
6781 Bedretto
altitude
2258[m]
date of construction
1937
topography
Pass
size
M
form
Dot
materiality
Concrete, Wood, Steel
panorama
270°
landscape impact
Iceberg



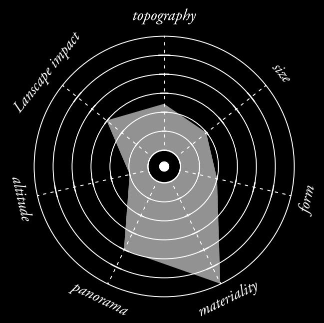


B

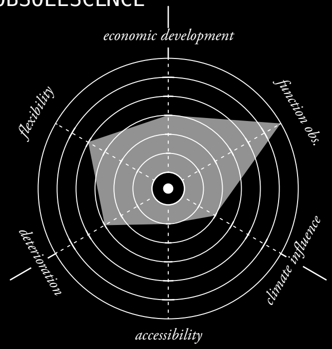
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

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CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

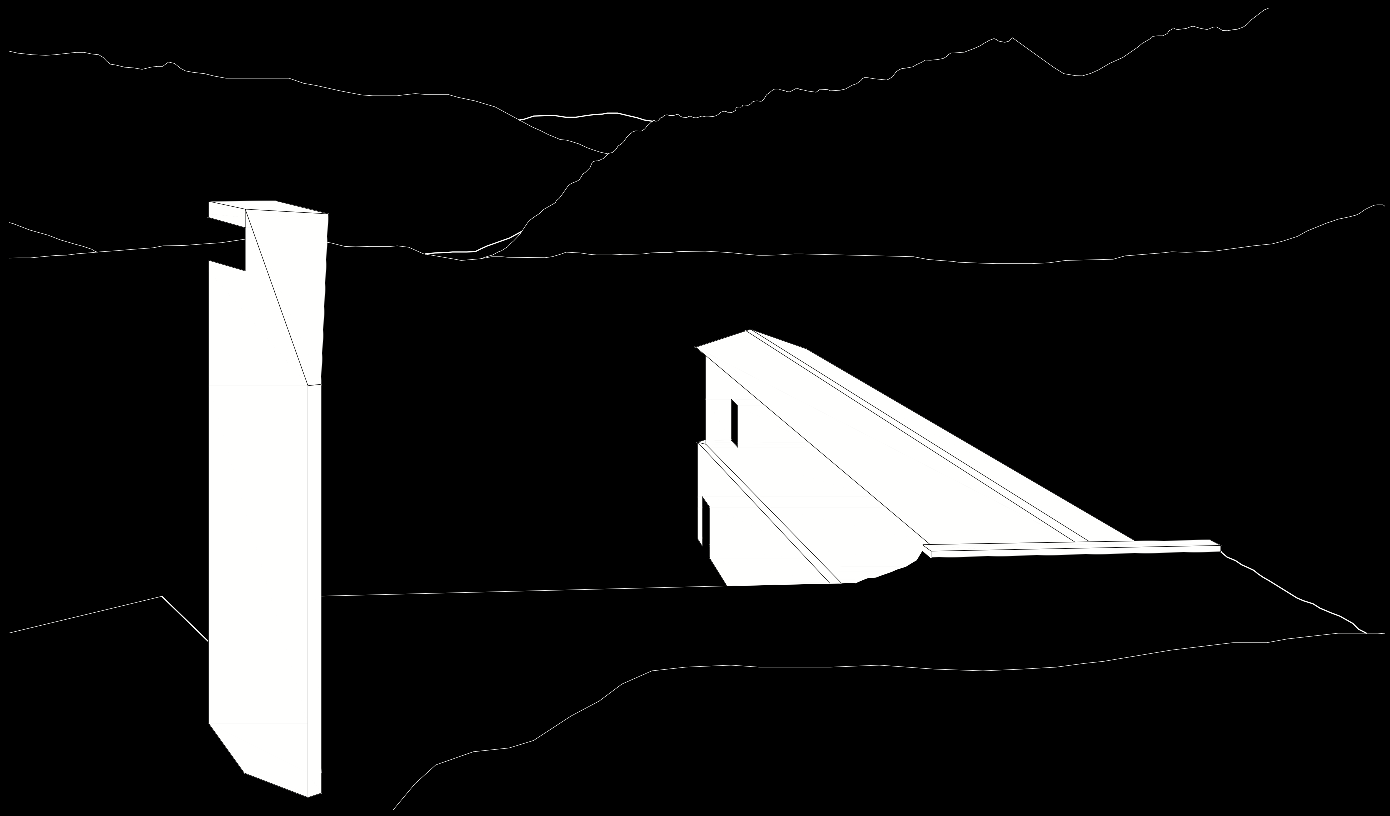
restrained — average — capacious

heritage value

valuable — average — null

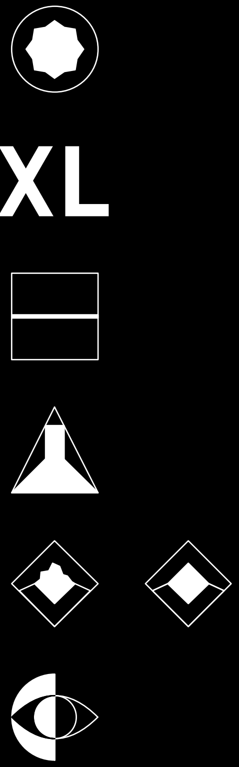
39
SAN_GIACOMO

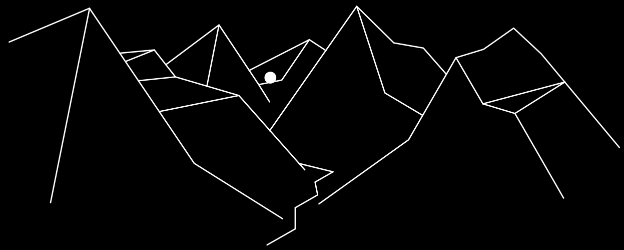
D



40
SAN_GOTTARDO

name
Sperrtelle San Gottardo
type
Military Fortress
location
San Gottardo Pass
country
CH
canton
TI
commune
6780 Airolo
altitude
2110[m]
date of construction
1894
topography
Pass
size
XL
form
Line
materiality
Stone, Ciment, Steel
panorama
180°
landscape impact
Passive, Camouflaged

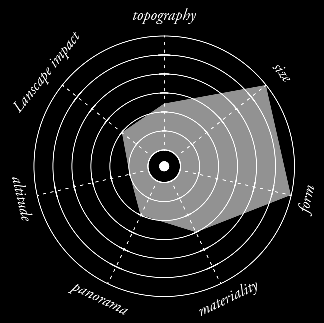




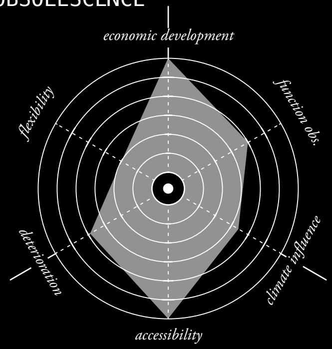
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local — mixed — imported

quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

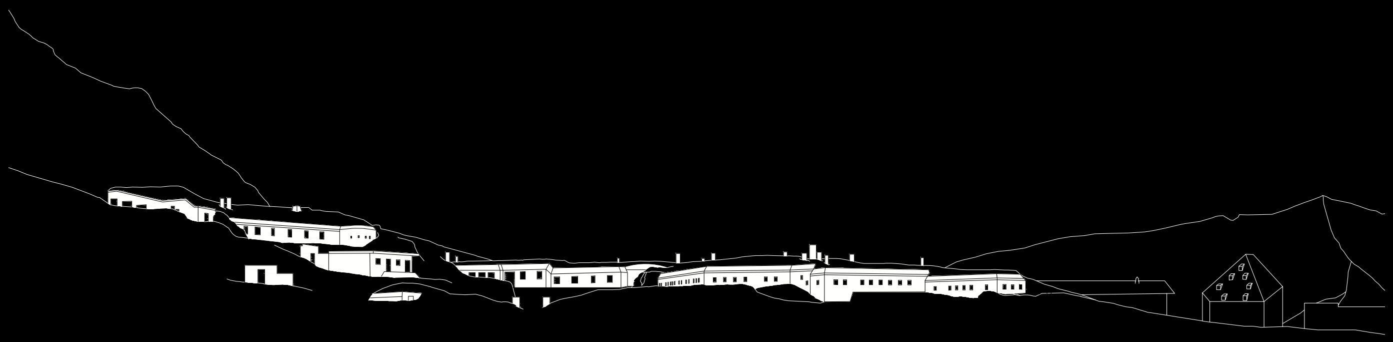
restrained — average — capacious

heritage value

valuable — average — null

40
SAN_GOTTARDO

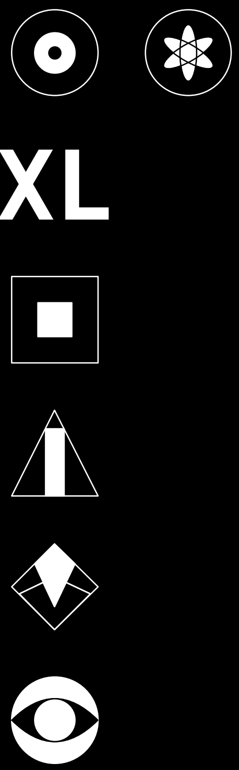
D

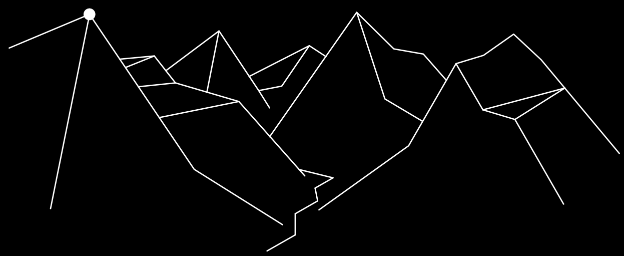


A

41
SENDER_SÄNTIS

name
Swisscom Sender Säntis
type
Communication Station
location
Säntis
country
CH
canton
AR
commune
9107 Urnäsch
altitude
2501[m]
date of construction
1998
topography
Summit
size
XL
form
Big Box
materiality
Concrete, Steel
panorama
360°
landscape impact
Landmark



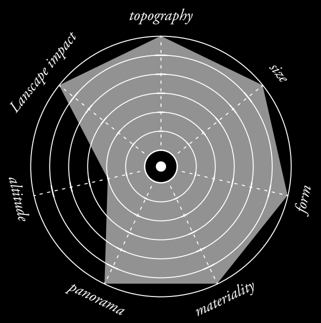


B

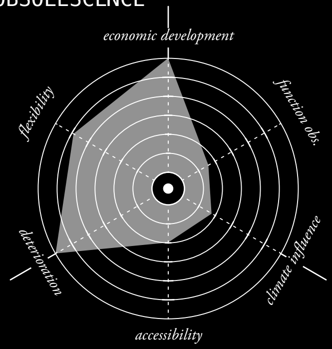
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

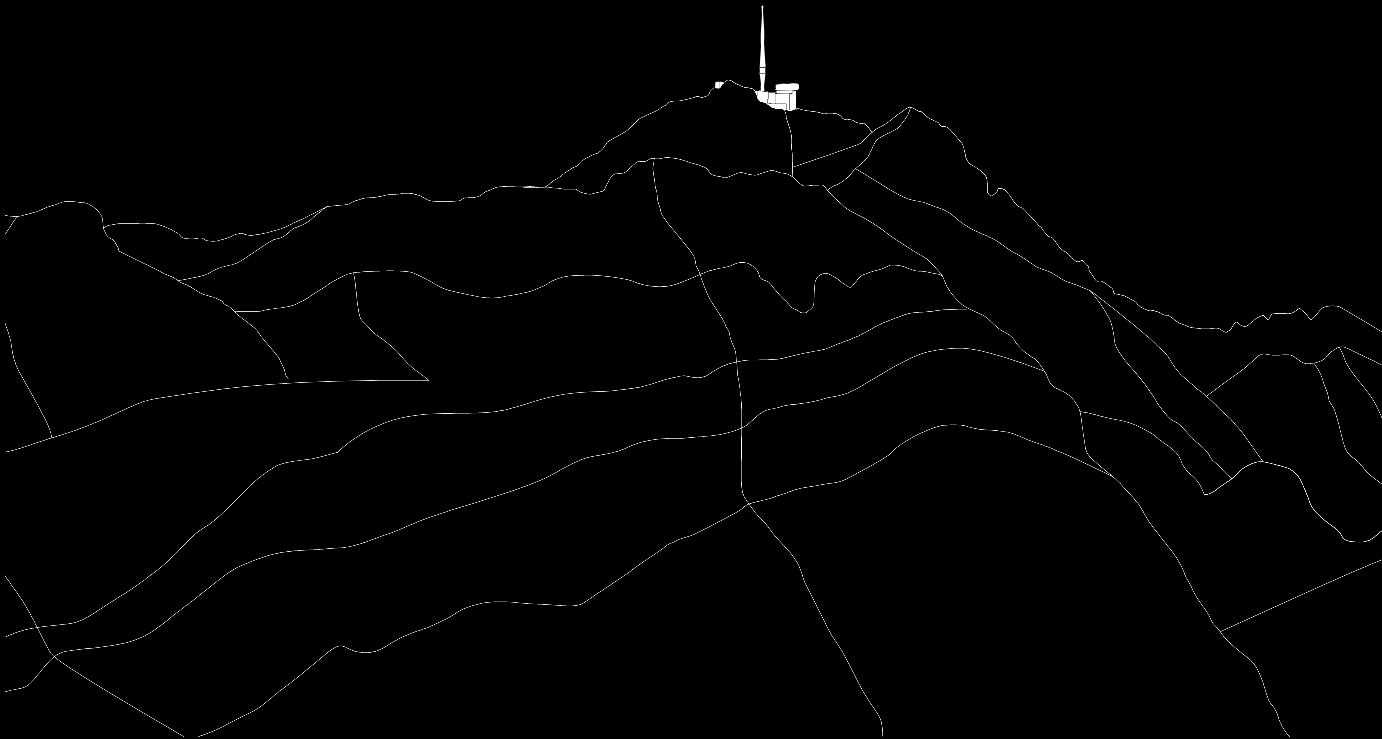
restrained *average* *capacious*

heritage value

valuable *average* *null*

41
SENDER_SÄNTIS

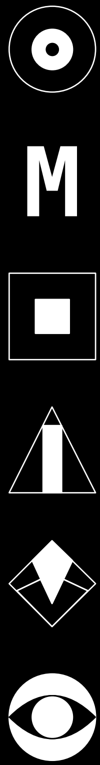
D

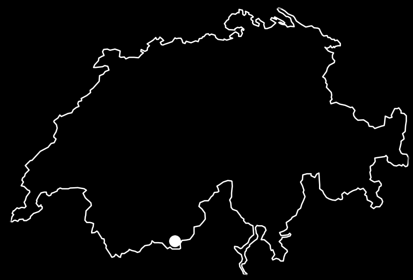


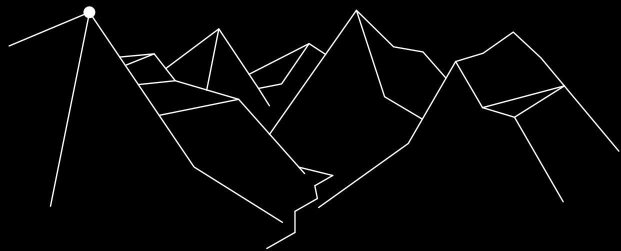
A

42
STOCKHORN

name
Luftseilbahn Stockhorn
type
Cable Car Station
location
Stockhorn
country
CH
canton
VS
commune
3920 Zermatt
altitude
3406[m]
date of construction
1958
topography
Summit
size
M
form
Big Box
materiality
Stone, Concrete, Metal
panorama
360°
landscape impact
Landmark



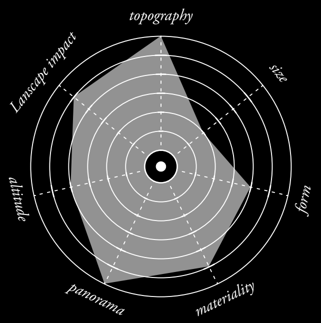




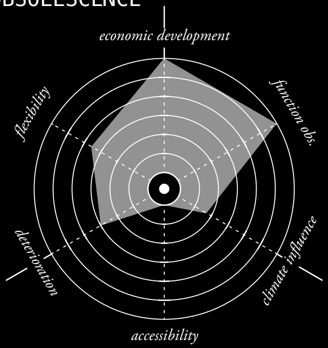
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

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relevant *average* *obsolete*

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unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

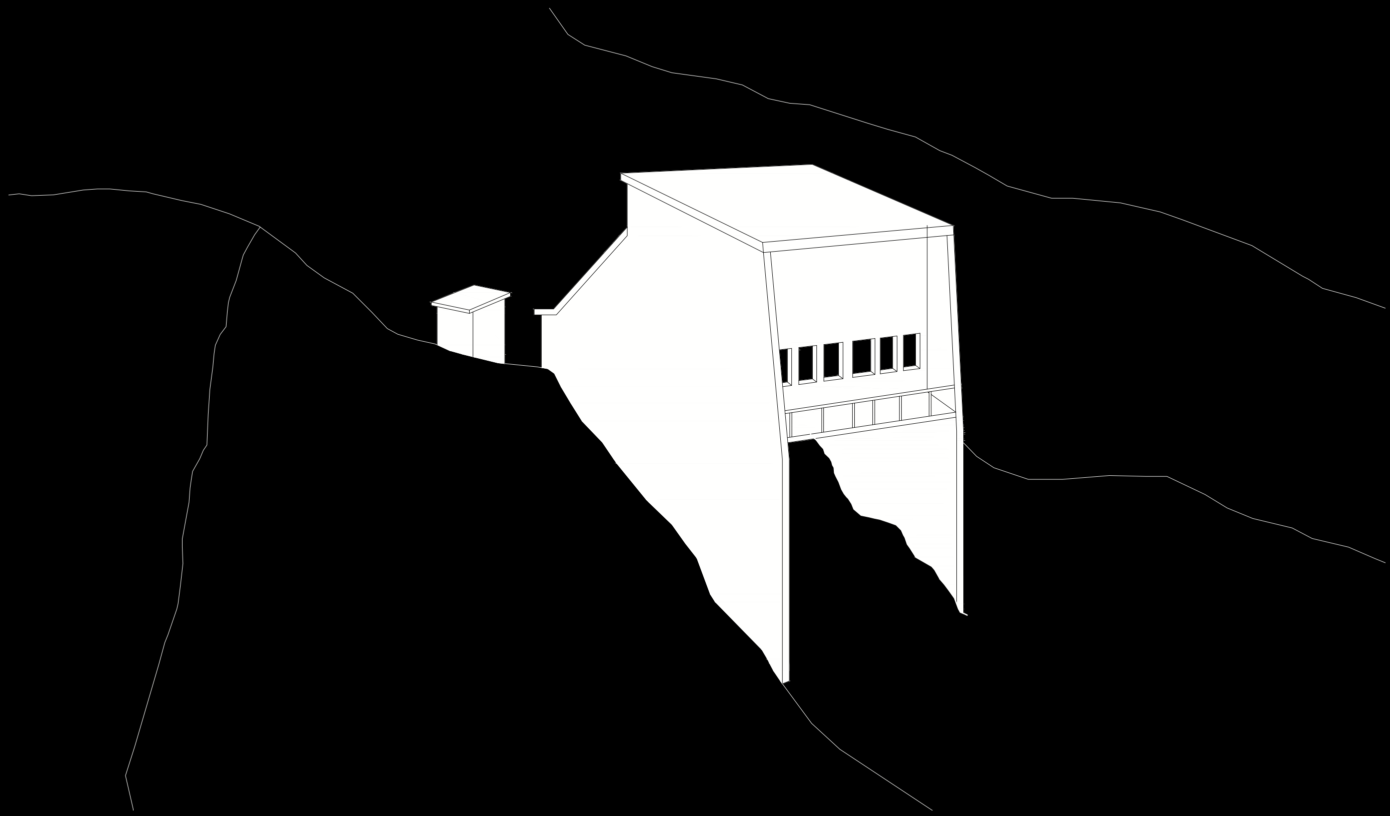
restrained *average* *capacious*

heritage value

valuable *average* *null*

42
STOCKHORN

D



43

A SUPER_ST·BERNARD

name
Super St. Bernard

type
Cable Car Station

location
Col Nord de Menouve

country
CH, IT

canton
VS

commune
1946 Bourg St-Pierre

altitude
2761[m]

date of construction
1963

topography
Ridge

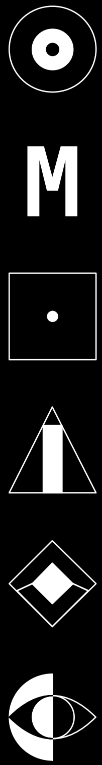
size
M

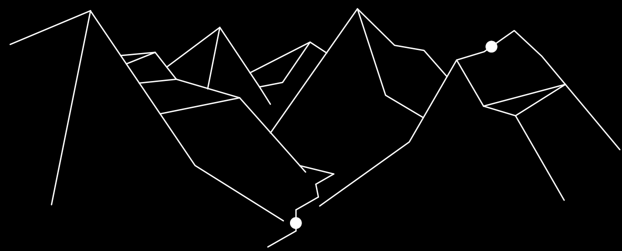
form
Dot

materiality
Concrete, Steel

panorama
180°

landscape impact
Passive



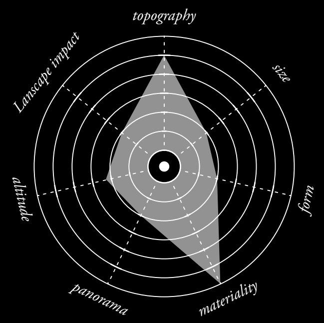


B

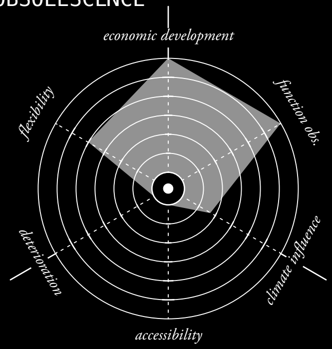
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local *mixed* *imported*

quantity of materials
small *medium* *large*

infrastructural independance
independent *dependent*

means of transportation
f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography
un *va* *pl* *pa* *fa* *sh* *ri* *su*

size
s *m* *l* *xl*

form
none *dot* *big box* *line*

materiality
integrated *mixed* *contrasted*

panorama
90° *180°* *270°* *360°*

altitude
1500 *2500* *3500* *4500*

landscape impact
inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y *0 m/y*

programmatic obsolescence
relevant *average* *obsolete*

technical obsolescence
relevant - n/a *average* *obsolete*

future obsolescence risk
unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions
rough *average* *mild*

hazard exposure
exposed *average* *protected*

seasonal accessibility
seasonable *average* *all year*

altitude
4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection
none *path* *road* *inst.*

distance from access point
>1h *<1h* *0*

vertical difference
>100m *<100m* *0*

DETERIORATION

structure
degraded *average* *intact*

technical installations
degraded *average* *intact - n/a*

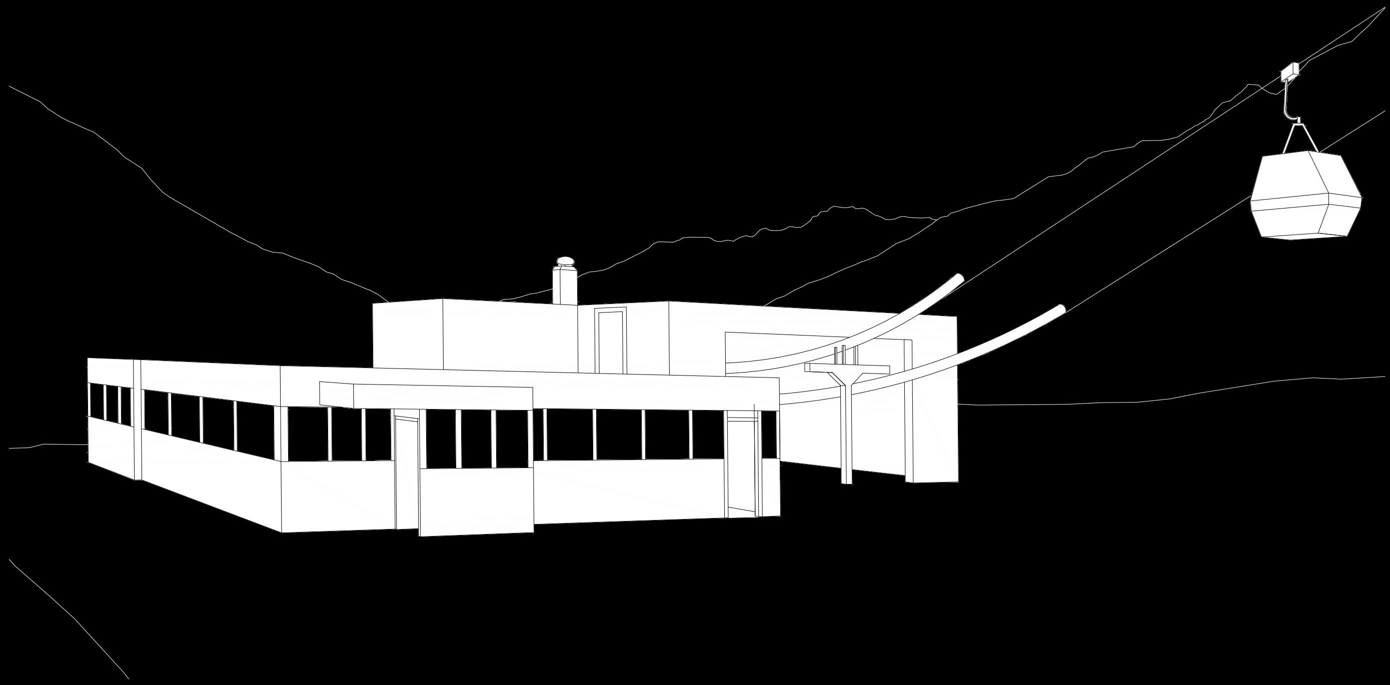
FLEXIBILITY

spatial complexity
complex *average* *elementary*

capacity
restrained *average* *capacious*

heritage value
valuable *average* *null*

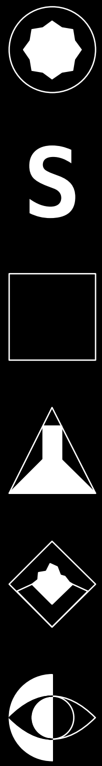
43
SUPER_ST·BERNARD *D*

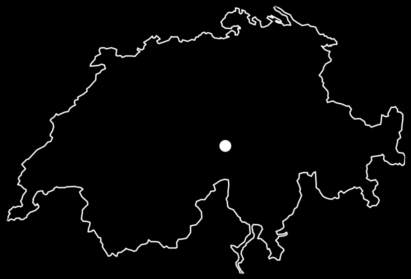


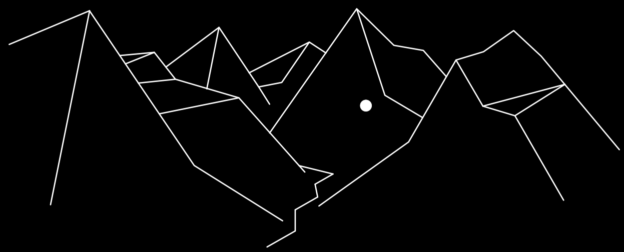
A

44
SUSTENPASS

name
IW Susten
type
Infantry Bunker
location
Susten Pass
country
CH
canton
BE
commune
784 Innertkirchen
altitude
2178[m]
date of construction
1943
topography
Face
size
S
form
None
materiality
Concrete, Metal, Stone
panorama
180°
landscape impact
Camouflaged





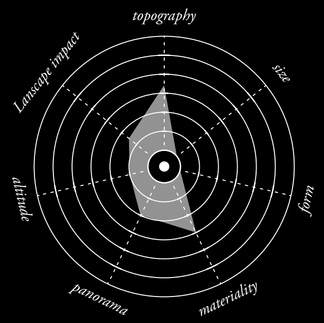


B

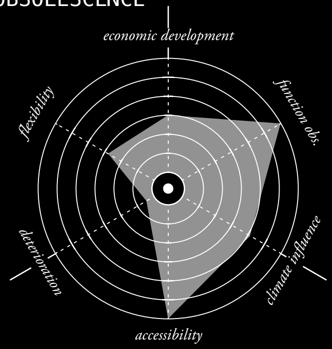
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

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unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

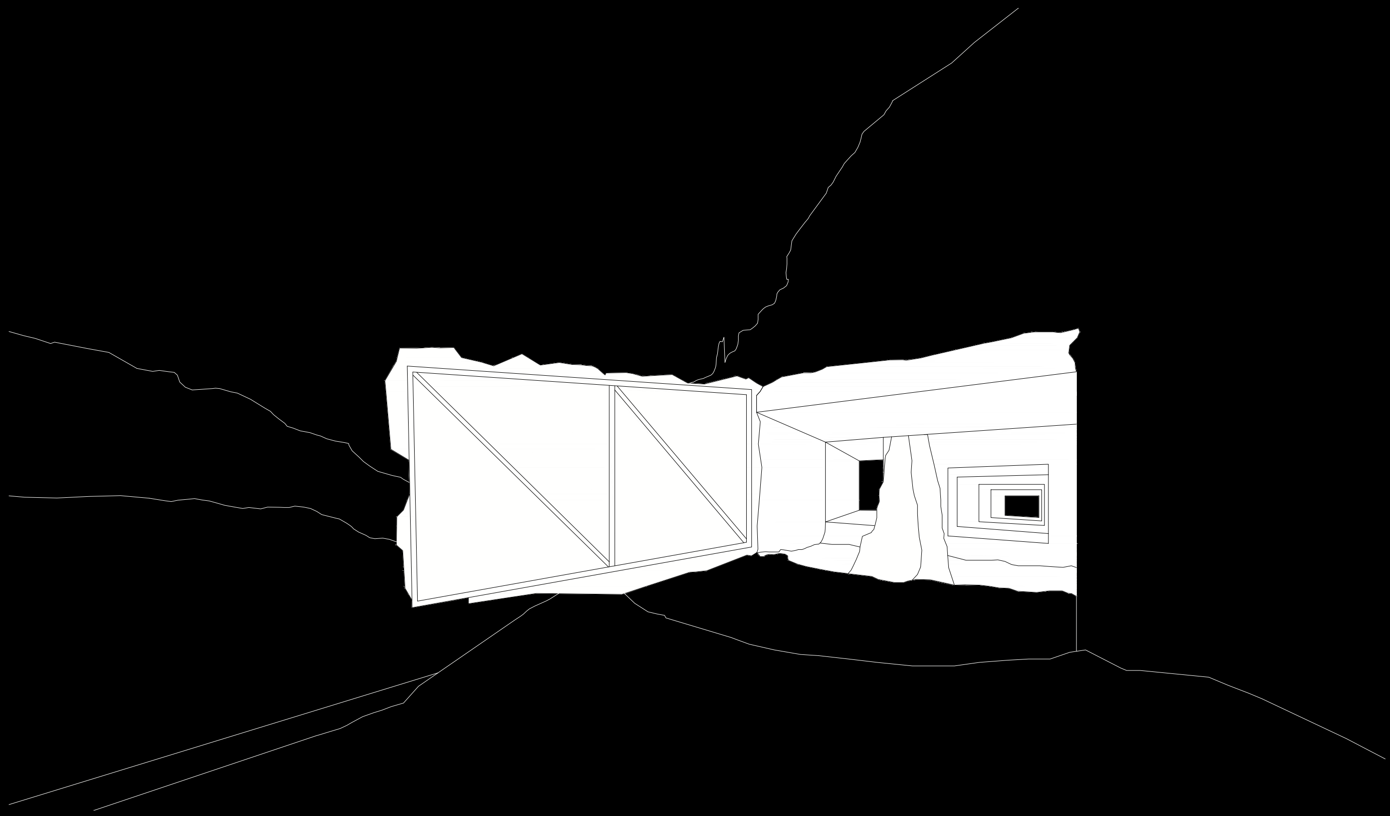
restrained *average* *capacious*

heritage value

valuable *average* *null*

44
SUSTENPASS

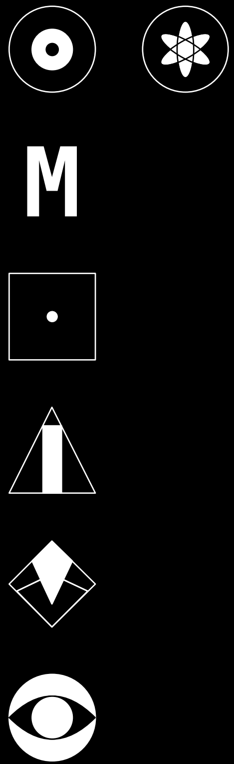
D

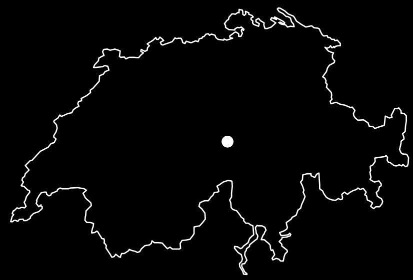


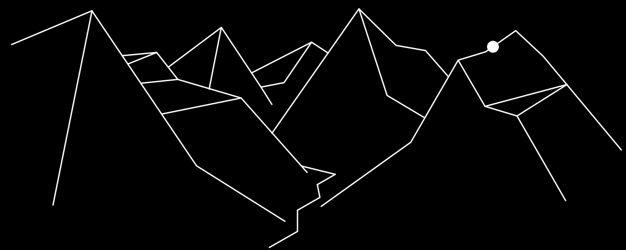
45

A TITLIS_FUNKTURM

name
Swisscom Titlis Funkturm
type
Radio & Weather Station
location
Klein Titlis
country
CH
canton
OW
commune
6390 Engelberg
altitude
3040[m]
date of construction
1985
topography
Ridge
size
M
form
Dot
materiality
Metal
panorama
360°
landscape impact
Landmark





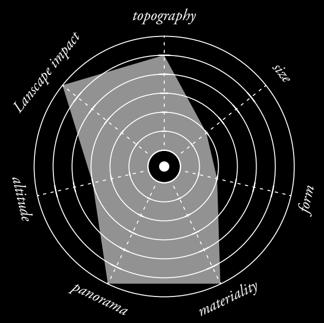


B

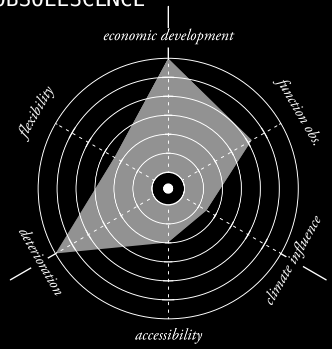
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

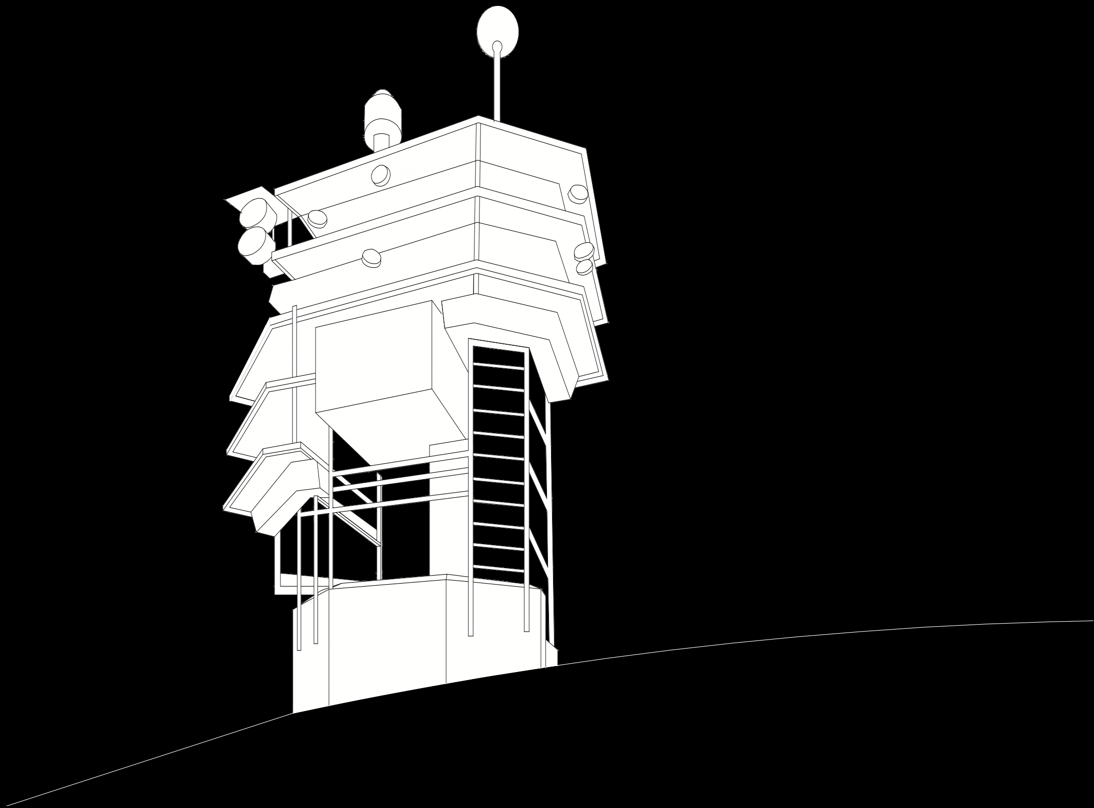
FLEXIBILITY

spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

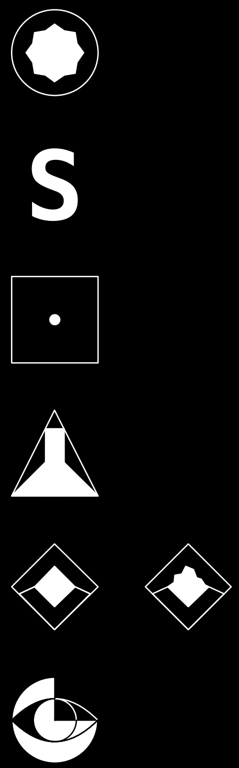
heritage value
valuable — average — null

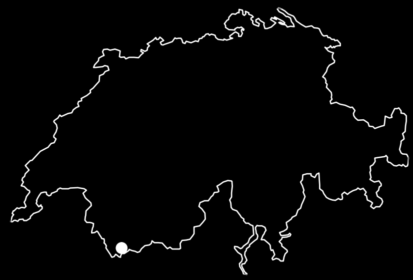
45
TITLIS_FUNKTURM *D*

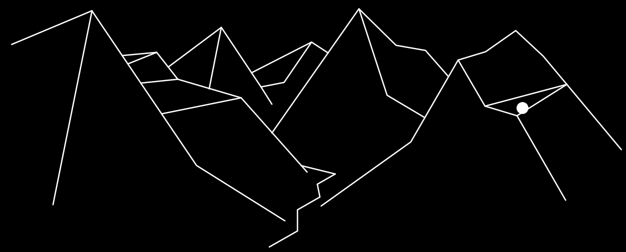


46
TSALEVEY

name
Fortification Tsalevey
type
Infantry Bunker
location
Tsalevey
country
CH
canton
VS
commune
1946 Bourg St-Pierre
altitude
2140[m]
date of construction
1939
topography
Shoulder
size
S
form
Dot
materiality
Concrete, Wood, Steel
panorama
270°
landscape impact
Passive



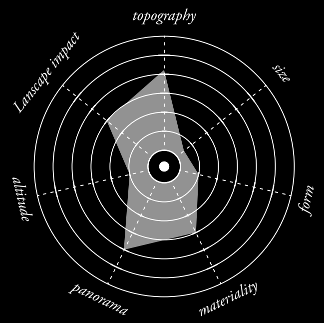




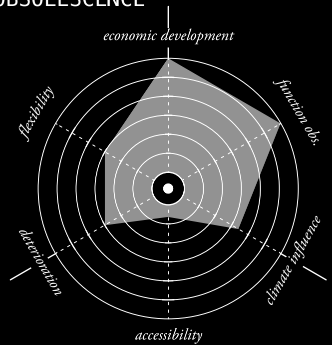
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local — mixed — imported

quantity of materials
small — medium — large

infrastructural independance
independent — dependent

means of transportation
f & h — cc — r&a — h

PHENOMENOLOGY

topography
un — va — pl — pa — fa — sh — ri — su

size
s — m — l — xl

form
none — dot — big box — line

materiality
integrated — mixed — contrasted

panorama
90° — 180° — 270° — 360°

altitude
1500 — 2500 — 3500 — 4500

landscape impact
inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation
12 m/y — 0 m/y

programmatic obsolescence
relevant — average — obsolete

technical obsolescence
relevant - n/a — average — obsolete

future obsolescence risk
unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions
rough — average — mild

hazard exposure
exposed — average — protected

seasonal accessibility
seasonable — average — all year

altitude
4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection
none — path — road — inst.

distance from access point
>1h — <1h — 0

vertical difference
>100m — <100m — 0

DETERIORATION

structure
degraded — average — intact

technical installations
degraded — average — intact - n/a

FLEXIBILITY

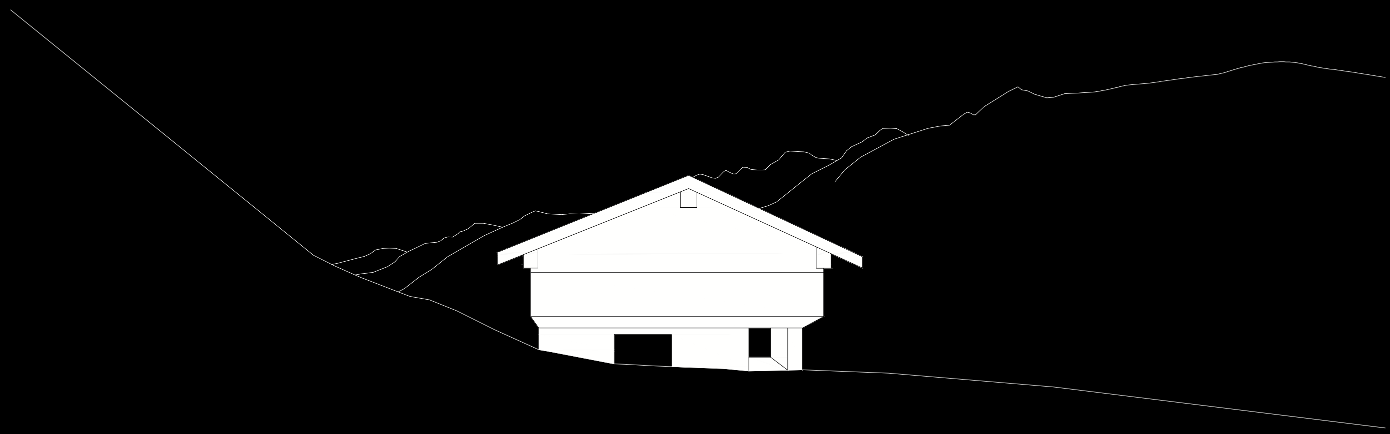
spatial complexity
complex — average — elementary

capacity
restrained — average — capacious

heritage value
valuable — average — null

46
TSALEVEY

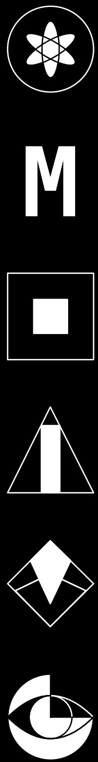
D

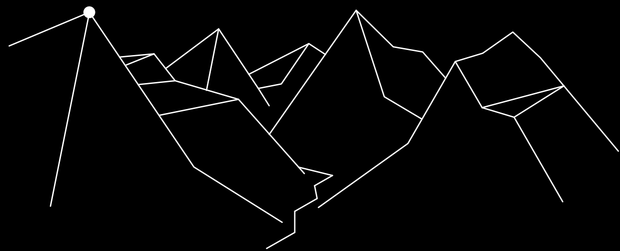


A

47
WEISSFLUHJOCH

name
SLF Weissfluhjoch
type
Snow Research Station
location
Weissfluhjoch
country
CH
canton
GR
commune
7260 Davos-Dorf
altitude
2664[m]
date of construction
1936
topography
Summit
size
M
form
Big Box
materiality
Stone, Metal, Wood
panorama
270°
landscape impact
Landmark

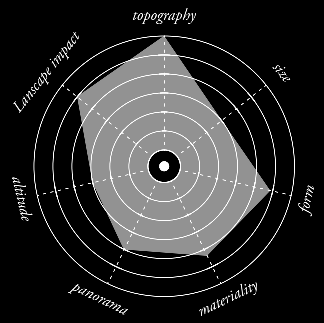




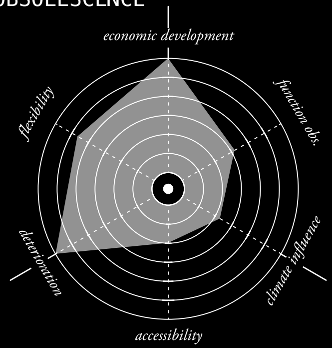
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials
local *mixed* *imported*

quantity of materials
small *medium* *large*

infrastructural independance
independent *dependent*

means of transportation
f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography
un *va* *pl* *pa* *fa* *sh* *ri* *su*

size
s *m* *l* *xl*

form
none *dot* *big box* *line*

materiality
integrated *mixed* *contrasted*

panorama
90° *180°* *270°* *360°*

altitude
1500 *2500* *3500* *4500*

landscape impact
inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development
static *average* *dynamic*

FUNCTION OBSOLESCENCE

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relevant *average* *obsolete*

technical obsolescence
relevant - n/a *average* *obsolete*

future obsolescence risk
unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions
rough *average* *mild*

hazard exposure
exposed *average* *protected*

seasonal accessibility
seasonable *average* *all year*

altitude
4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection
none *path* *road* *inst.*

distance from access point
>1h *<1h* *0*

vertical difference
>100m *<100m* *0*

DETERIORATION

structure
degraded *average* *intact*

technical installations
degraded *average* *intact - n/a*

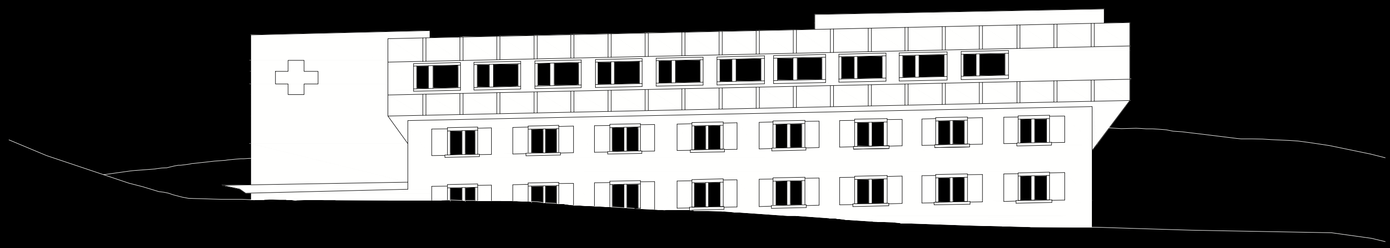
FLEXIBILITY

spatial complexity
complex *average* *elementary*

capacity
restrained *average* *capacious*

heritage value
valuable *average* *null*

47
WEISSFLUHJOCH *D*



A

48
WILDSTRUBEL

name
Hotel Wildstrubel

type
Hotel

location
Gemmi Pass

country
CH

canton
VS

commune
3954 Leukerbad

altitude
2313[m]

date of construction
1885

topography
Pass

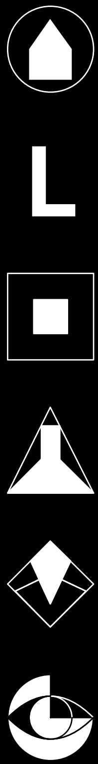
size
L

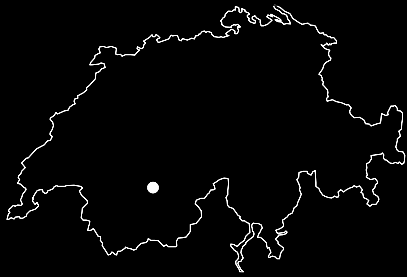
form
Big Box

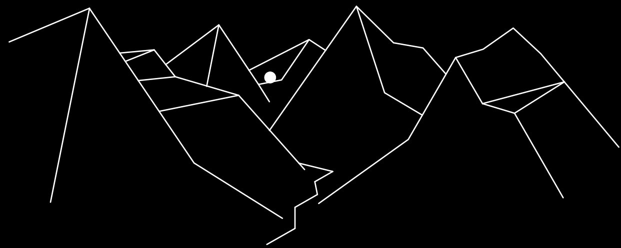
materiality
Ciment, Plaster, Wood

panorama
270°

landscape impact
Landmark



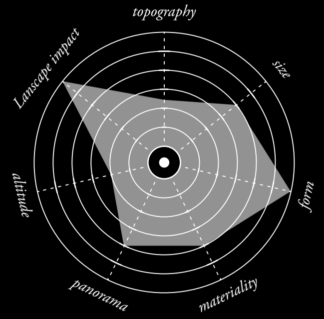




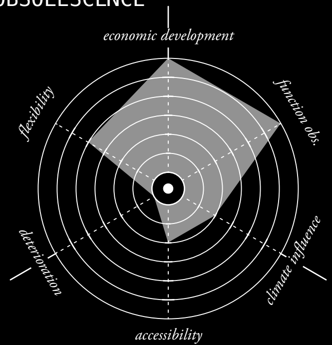
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

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rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

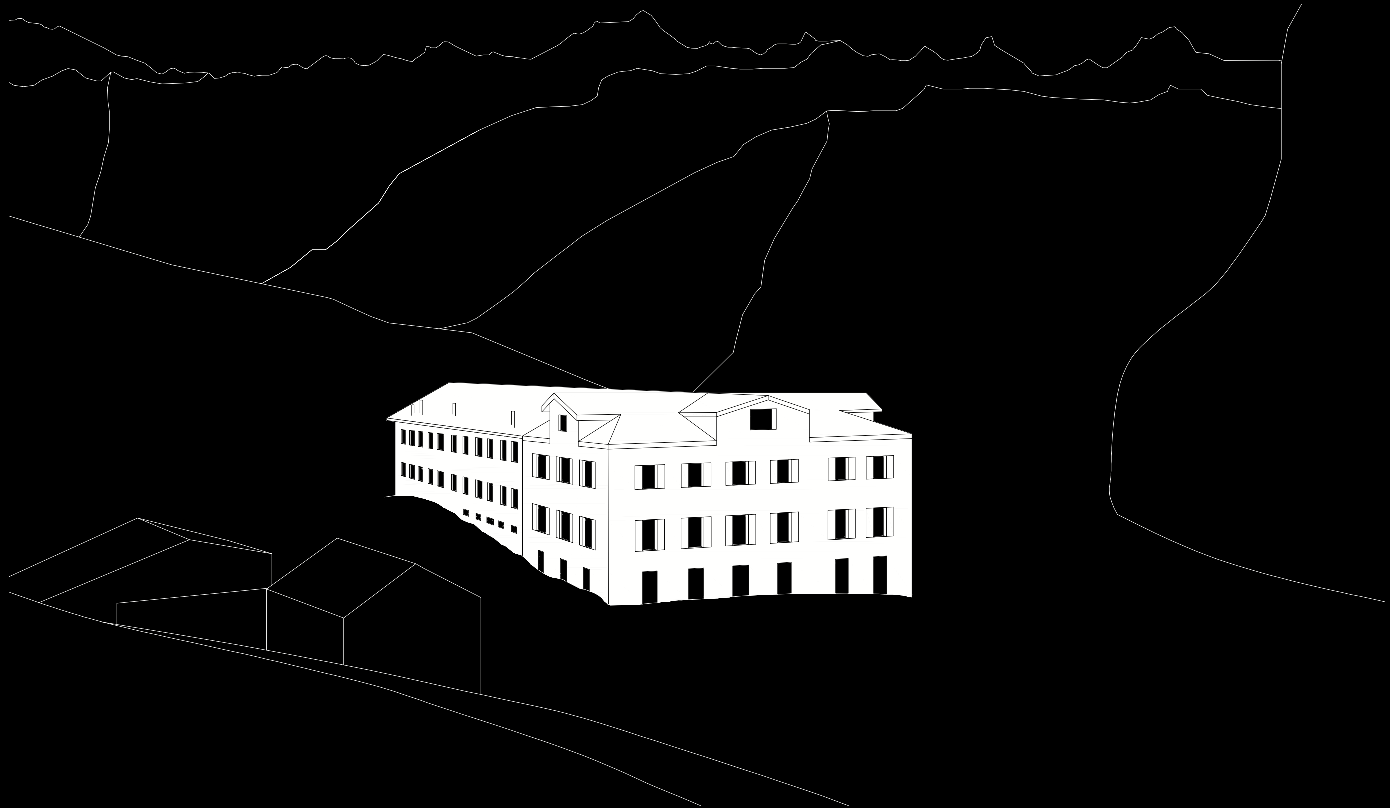
restrained *average* *capacious*

heritage value

valuable *average* *null*

48
WILDSTRUBEL

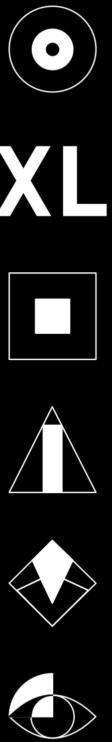
D

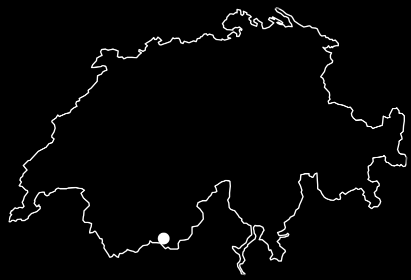


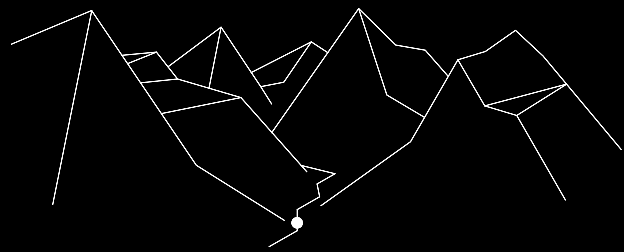
A

49
ZENTRALE_ZMUTT

name
Zentrale Zmutt
type
Hydroelectric Station
location
Zmutt
country
CH
canton
VS
commune
3920 Zermatt
altitude
1943[m]
date of construction
1968
topography
Valley
size
XL
form
Big Box
materiality
Concrete, Stone, Wood
panorama
90°
landscape impact
Landmark



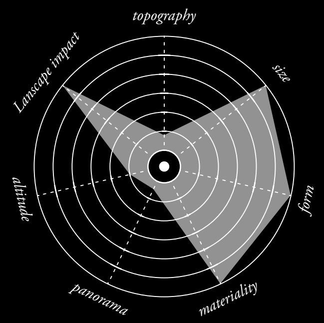




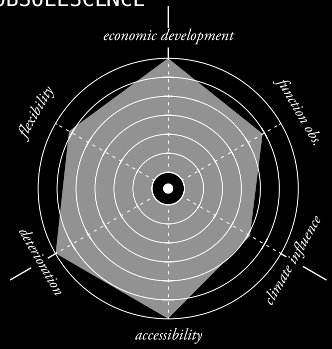
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

local *mixed* *imported*

quantity of materials

small *medium* *large*

infrastructural independance

independent *dependent*

means of transportation

f & h *cc* *r&a* *h*

PHENOMENOLOGY

topography

un *va* *pl* *pa* *fa* *sh* *ri* *su*

size

s *m* *l* *xl*

form

none *dot* *big box* *line*

materiality

integrated *mixed* *contrasted*

panorama

90° *180°* *270°* *360°*

altitude

1500 *2500* *3500* *4500*

landscape impact

inv *cam* *ice* *pas* *lan*

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static *average* *dynamic*

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y *0 m/y*

programmatic obsolescence

relevant *average* *obsolete*

technical obsolescence

relevant - n/a *average* *obsolete*

future obsolescence risk

unknown *near future* *imminent*

CLIMATE INFLUENCE

climate conditions

rough *average* *mild*

hazard exposure

exposed *average* *protected*

seasonal accessibility

seasonable *average* *all year*

altitude

4500 *3500* *2500* *1500*

ACCESSIBILITY

infrastructure connection

none *path* *road* *inst.*

distance from access point

>1h *<1h* *0*

vertical difference

>100m *<100m* *0*

DETERIORATION

structure

degraded *average* *intact*

technical installations

degraded *average* *intact - n/a*

FLEXIBILITY

spatial complexity

complex *average* *elementary*

capacity

restrained *average* *capacious*

heritage value

valuable *average* *null*

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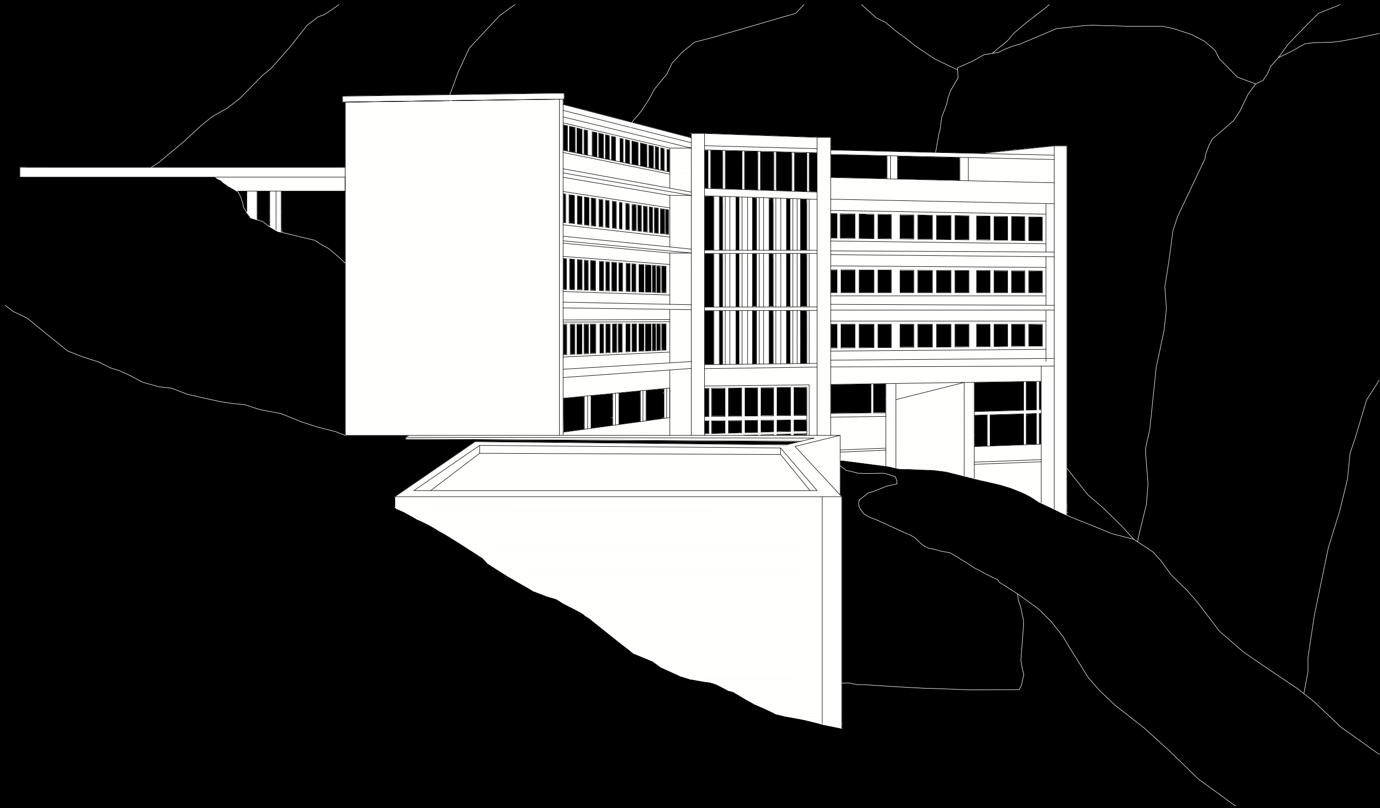
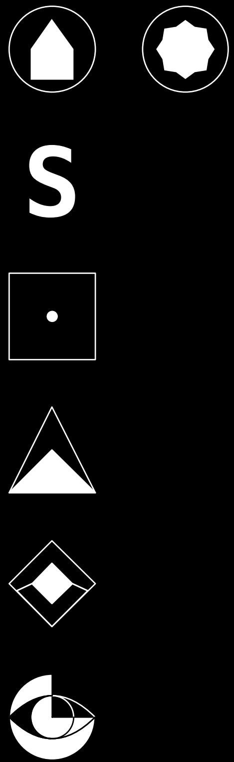
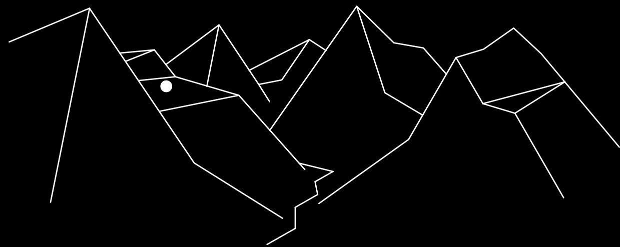
ZENTRALE_ZMUTT D



50
ZUOZ

name
Zuoz Hütte
type
Military Refuge
location
Fuorcla Federia
country
CH, IT
canton
GR
commune
7524 Zuoz
altitude
2897[m]
date of construction
1914
topography
High Plateau
size
S
form
Dot
materiality
Stone, Ciment, Wood
panorama
270°
landscape impact
Passive

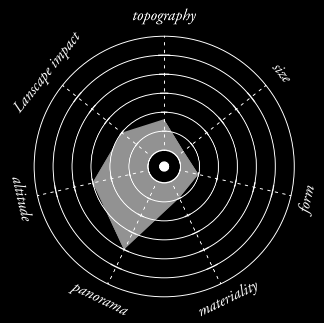




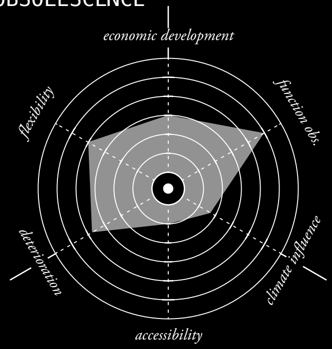
C

Graphs

PHENOMENOLOGY



OBSOLESCENCE



Phenomenology values

ECO FOOTPRINT

source of materials

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quantity of materials

small — medium — large

infrastructural independance

independent — dependent

means of transportation

f & h — cc — r&a — h

PHENOMENOLOGY

topography

un — va — pl — pa — fa — sh — ri — su

size

s — m — l — xl

form

none — dot — big box — line

materiality

integrated — mixed — contrasted

panorama

90° — 180° — 270° — 360°

altitude

1500 — 2500 — 3500 — 4500

landscape impact

inv — cam — ice — pas — lan

Obsolescence values

ECONOMIC DEVELOPMENT

economic development

static — average — dynamic

FUNCTION OBSOLESCENCE

frequency of occupation

12 m/y — 0 m/y

programmatic obsolescence

relevant — average — obsolete

technical obsolescence

relevant - n/a — average — obsolete

future obsolescence risk

unknown — near future — imminent

CLIMATE INFLUENCE

climate conditions

rough — average — mild

hazard exposure

exposed — average — protected

seasonal accessibility

seasonable — average — all year

altitude

4500 — 3500 — 2500 — 1500

ACCESSIBILITY

infrastructure connection

none — path — road — inst.

distance from access point

>1h — <1h — 0

vertical difference

>100m — <100m — 0

DETERIORATION

structure

degraded — average — intact

technical installations

degraded — average — intact - n/a

FLEXIBILITY

spatial complexity

complex — average — elementary

capacity

restrained — average — capacious

heritage value

valuable — average — null

50
ZUOZ

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