

Article

Mourning Glaciers: Animism Reconsidered through Ritual and Sensorial Relationships with Mountain Entities in the Alps

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Abstract: The transformation due to climate change of the high Alpine mountains is intensifying. A real disruption in the perception of this milieu and in the ways of interacting with it is ongoing, as evidenced by recent funeral ceremonies organised for disappearing glaciers. The investigation and documentation of the alternative interactions with mountain entities, such as glaciers, is challenging the very existence of the “Great Divide” that modernity has supposedly created between humans and non-humans. Through ethnographic observations and semi-directed interviews, the conducted study uncovers in the Valais Alps and in the Mont Blanc massif the hidden relationships developed with their environment by high-mountain people, such as glaciologists, mountain guides, or crystal hunters. It shows how they relate with specific glaciers or rock walls, listen to them, see them as living and dying, and build up new attention schemes and forms of attachments. It, therefore, allows a first characterisation of what may be akin to a form of animism in a Western context, reputedly naturalistic.

Keywords: animism; human/non-human relations; cultural anthropology; high mountain; glaciers; rituals; sensoriality; personification; Alps; climate change



Citation: Chamel, J. Mourning Glaciers: Animism Reconsidered through Ritual and Sensorial Relationships with Mountain Entities in the Alps. *Humans* **2023**, *3*, 239–250. <https://doi.org/10.3390/humans3040019>

Academic Editor: Haskel J. Greenfield

Received: 14 June 2023

Revised: 13 September 2023

Accepted: 29 September 2023

Published: 11 October 2023



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1. Introduction

The transformation of the mountain cryosphere is intensifying, as testified to by accelerated glacier mass loss, glacier terminus retreat, deeper permafrost melting, and increasing rockfall events [1,2]. A real disruption in the perception of this milieu and in the ways of interacting with it is underway. This is evidenced by the recent funeral ceremonies for disappearing glaciers in Iceland, the United States, and Switzerland. These ceremonies make us aware of the existence of many alternative ways of interacting with mountain entities, practices that are part of a broader disposition to reconnect with nature and to reinvent relations with living beings [3] in order to put an end to the “Great Divide” [4], the gap that modernity has supposedly created between nature and culture, humans and non-humans. At the same time, indigenous peoples attract greater attention, with the ancient wisdom of a harmonious relationship with nature that they have allegedly preserved. Is, however, the dividing line between indigenous animism and the naturalism of modern Western thought, in the words of Philippe Descola [5] to characterise distinct schemes of relations to non-humans, so definite? Is it not possible to observe, in the context of Western modernity, forms of interaction with non-human entities that would fall within the scope of animism? Could, therefore, the high mountains, as they are experienced daily by those who interact with them, be they mountain guides, glaciologists, mountaineers, crystal hunters, hut wardens, or photographers, not be seen as a static setting, but personified, considered as alive, and the object of particular attentions and attachments? And could such perspectives be likened to animism? Is it also likely that the experience of their rapid transformation, or even the loss of specific rock walls or glaciers, acts as a catalyst for reinforcing these modes of relations, through an awareness of their fragility and a desire to care for them, making it a particularly favourable environment for studying these reconfigurations? The purpose of this article is, thus, to uncover and characterise what may be akin to a form of animism in a

Western context, reputedly naturalistic, but where other schemes of relations can coexist, or emerge from an “ontological recomposition” [5] (p. 198).

Many academic works have been written about the social history of climate, such as the seminal book of Le Roy Ladurie [6], and also more specific studies on the perceptions of glacial fluctuations, from their extension of the Little Ice Age [7] to their more recent understanding of “endangered species” [8]. More recently, several studies in human geography have begun to take account of how fast and deep changes occur in the Alps, focusing in particular on the evolution of the practices in the high mountain [9,10] and of the profession of guide [11] and showing the emergence of a ‘last chance’ glacier tourism [12]. These studies also mention the widening gap between reality and the imaginary of the high mountains, as it is anchored in the mountain community and particularly among guides [10] (p. 186), [11], but without going into it in depth. They do not focus on the evolution of perceptions and imaginaries of the mountain, nor on the changes of interactions with the environment, particularly in terms of sensoriality and rituality, which interest anthropologists. The latter document how the effects of climate change are disrupting the lifestyles of populations, particularly indigenous people, in mountain regions where changes are occurring more rapidly and more intensely, and describe in particular the cosmological and ritual consequences [13–21]. However, in the Alps, little comparable work has been conducted, apart from that of Sarah Strauss in Leukerbad [22,23] and Christine Jurt in the Italian Tyrol. Jurt in particular deals with the relationship of the inhabitants of Stilfs with the glacier above them [24–26], but her research does not particularly focus on people with a close relationship with the high mountains.

On the other hand, the concept of animism forged more than a century ago by Edward B. Tylor, which was abandoned for a long time by anthropologists to the common sense, and understood as a primitive and erroneous belief that natural entities are animated, i.e., gifted with a soul (*anima* in Latin) and endowed with intention, is indeed coming back to animate the debate [27]. As early as the 1960s, Irving Hallowell refuted the definition of animism as the systematic attribution of a living soul to inanimate objects, such as stones; the Ojibwa he studied could recognise a potential for animation in certain classes of objects in certain circumstances, and not in others, depending on their experience of them [28] (p. 24). For Nurit Bird-David, personhood is not a characteristic reserved for humans alone, but it rather emerges from the relationship with any type of being, without categorical a priori. Bird-David comes to see animism as a relational epistemology quite distinct from modernist epistemology. In this perspective, animism would have a universal scope: if it enjoys an authoritative status within the so-called animist societies, it functions equally well in relations with domestic plants or cars in Western contexts. We personify entities because we socialise with them, not the other way around [29] (pp. S78–79). For Eduardo Viveiros de Castro and Marshall Sahlins, this universal disposition to personification, a kind of “generic anthropomorphism”, could actually be the default mode of relating to non-humans [30] (p. 282).

There is, therefore, room to analyse the modes of relations with the mountain entities as forms of animism. This innovative approach can help us to better understand what is at stake in the rapid transformation of the mountain, in the changes in mountain practices, and in the perception of this environment. It is also excellent fieldwork to better understand what is at stake in the more general transformation of the relationship with the more-than-human. We will see that many aspects of the relationship with these ice and rocks giants can indeed be associated with an animistic epistemology. Knowing and understanding better these modes of relations is actually crucial to rethink our relations with the high-mountain milieu and landscapes, which are acting as climate change sentinels. Indeed, the climate is warming there twice as fast as in the lowlands at temperate latitudes [31], and the changes there forewarn of coming upheavals at lower altitudes. The ongoing transformations observed in the high mountains can also illustrate deeper changes in the relationship of Westerners with non-humans, but these phenomena still remain to

be deepened with the use of innovative interviews techniques to reach a deeper level of perception and consciousness.

2. Materials and Methods

This article is the result of ethnographic research that began at the end of 2020 and that is still in progress with people (identified via snowball sampling) who have regular and in-depth contact with the high alpine mountains, mainly the Valais Alps (Switzerland) and the Mont Blanc range (France–Italy–Switzerland): mountain guides and mountaineers, glaciologists, crystal hunters, hut keepers, etc. The data were collected through about thirty semi-directive interviews, most of which were recorded and transcribed. In addition, participant observation visits and stays were carried out at the foot of the glaciers, as well as in the high mountains, in particular, by accompanying the visual artist Camille Llobet on the shooting of her documentary essay “Pacheû”. The method of “go-along ethnography”, walks–conversations in places relevant to the research [32,33], was sometimes used. The data were then recorded in a field journal, accompanied by photos and some videos. The analysis was made following the methodology of grounded theory [34,35], which calls for permanent readjustment between theory and data collection.

3. Results

In the village of Fiesch, in the Swiss Upper Valais, a Catholic procession takes place every 31 July, on St. Ignatius Day. Instituted to ask God to prevent the overflow of the great Aletsch glacier, it appeared clearly, at the turn of the 21st century, that the original 1678 prayer, blessed by Pope Innocent XI, was no longer adapted to the rapid retreat of the glacier, which poses new threats of water shortages and of loss of tourist attraction. It was, therefore, decided to literally reverse the meaning of the prayer with the papal blessing, obtained from Benedict XVI in 2011: “Almighty God, consider our requests, listen to us, protect us from the warming of the Earth, the change of climate, the melting of the glaciers. Give beings the great will and ability to fight these problems, may wisdom prevail, may our prayers be heard” (at 9'22", Author's translation) [36].

3.1. Funerals for a Glacier

This reversal may seem anecdotal, but it is the prelude to the organisation of new glacier funerals, such as the ceremonies that took place in Iceland for the Okjökull glacier [37,38] in Oregon, but also in Switzerland, notably, for the Pizol glacier in the canton of St. Gallen and the Trient glacier in Valais. At Pizol, in September 2019, the atmosphere was one of mourning: dark clothes, black crepes, avoiding eye contact, according to my colleague Nicolas Nova, who attended the ceremony [39] (p. 145). After a moving speech by Swiss glaciologist Matthias Huss about the glacier he has known for years, a chaplain from a nearby valley put a wreath at the foot of the last remnants of the ice. These ceremonies attracted important media attention, but also revealed the deeper attachment to these monsters of ice that was developed by certain persons. I was able to speak to several people who attended one or the other of the Swiss ceremonies, and they regretted that it was, in both cases, more of a media stunt than an intimate gathering, with many climate activists from the cities and actually few people with in-depth knowledge of the places. Hans (all the names of my interlocutors have been changed), a Swiss German glaciologist, as we were talking about the ceremony he attended, had finally much more to say when he explained how he visited “his” dying glacier for the last time, putting an end to frequent visits during his thesis years and after. He had secretly hoped that the small, broken-up glacier would last for a few more years, but it did not. When he saw that only a few pieces of ice remained, partly covered by a rock fall, the only thing that he could still do was to dismantle the remaining instrumentation and say his last goodbyes to the glacier. It was really over. Under the grey sky, he says he felt a great sense of loss, which affected him deeply. He was deeply attached to this glacier; it was “his baby”. Hans stressed that for him, it was very different from losing a human relative—he was hammering that he was

a scientist, not doing politics, and that a funeral for a glacier could only be symbolic, not a real funeral—but as I listened to him, I could only say how sorry I was, using the same words and affected expression as if he had been talking about the loss of his grandmother or his pet, a loved one. After all, that is what this glacier was to him.

3.2. *Life and Death on Glacier des Bossons*

In the Chamonix valley (France), the *glacier des Bossons* descends from the summit of Mont Blanc, the highest point in the Alps, to venture into the valley, forming a true icefall, remarkable for its whiteness, when most of the valley glaciers became *noirs* (“black”, the French terminology for debris-covered glaciers), hidden by a thick detrital cover. Despite its relatively rapid speed of advance, its front has retreated significantly in recent decades, and all climbers over 50 in the valley remember doing their “ice school”, learning to wield ice axes and crampons on its snout, at a point now marked by emptiness, and the absence of the glacier between two high, crumbling moraines. A tourist cave was dug on its left flank, until 1994, when its retreat made access too dangerous. Marc, a local glaciologist, told me that when he arrived in the valley in the 1980s, he went down alone into one of its crevasses to “get to know it”, to soak it in, and, in its privacy, to say “I’m going to study you”. But more than the mountaineers and tourists, it is the treasure seekers of the valley who have got to know it the best. In its terminal part, the glacier yields a multitude of objects from the numerous crashes that have occurred on the slopes of Mont Blanc, and in particular, from two Air India commercial aircrafts, the *Malabar Princess* and the *Kangchenjunga*, which crashed in 1950 and 1966, respectively. Although a real treasure of 6000 precious stones from the latter crash was found in 2013, the seekers are mainly looking for letters, old newspapers, and small jewels, but also pieces of fuselage or mechanical parts. This quest is not venal; it is a hobby, a passion, in which the relationship with the glacier plays an important role.

Françoise is an artist who essentially looks for metallic material for her sculptures. She feels sorry to see “her” glacier—not in the sense of appropriation, but of taming, like the Little Prince and his rose—melting and contracting, year after year. “When I get up there, I touch the ice, I breathe. . . I feel so good”. She hears the glacier “speaking” and “singing”, and she is not sure how to describe this relationship. “In fact, this glacier has been my boyfriend since 1974”, she says, when she is not saying that “the glacier is another part of me”. It is a small consolation that she can now admire its snout from her home, whereas it used to be too low to be visible from her chalet. To attract attention, Françoise built a memorial a few years ago on the right bank of the glacial bed, in a place that now overlooks a huge void. A drystone base supports a reactor of the *Kangchenjunga*, below which a plaque states: “Tribute to the disappeared of the disappearing glacier”. The loss of human lives and the death of the glacier are more closely linked here than anywhere else. Treasure seekers often come across human remains preserved by the cold, most often victims of the two Air India spits, which they return to the glacier by putting them back in a crevasse. For Françoise, “up there, it’s their shroud, we have to leave them in their shroud”. If the clothes or shoes are those of mountaineers, she informs the rescue services so that the body can be recovered and identified, to facilitate the mourning of the families of the missing person. This morbid side can be disturbing for others in the valley, although the death of loved ones in the mountains is shared by all families, and it is said that the Chamonix cemetery is “the youngest in France”. The seekers do not care about this and continue to frequent the glacier, despite the risk of falling seracs, which leaves death to prowl the area even more.

Maurice, another treasure seeker, spent a lot of time up there. When he was finding human remains, he explains, he felt obliged to “make a sort of funeral, I would go and get some stones, then I would put them on top. I told myself that with the stones, with the heat and everything, it would go right back down, that the glacier would eat them”. One experience particularly marked him one day when he found himself lost in fog:

[. . .] I spotted a big block. And then I realised that I couldn't even see my feet. And then I felt something really incredible, because I put myself on this rock. I sat on it. And then, you have no more noise, you have nothing. Finally, you have an incredible thing: you can hear. You have the impression of moving backwards and forwards on the glacier. You can hear all the noises when the glacier cracks. . . And I think that moment was. . . I don't know how to say it. . . it was really. . . I felt so good, it was unique.

He then made it a habit, during his visits to the glacier, to rest for a while on a rock and close his eyes:

I was in osmosis with him. I was getting into the breathing. You close your eyes, you stay focused on your glacier. And then you hear. You hear the sounds. And then, sometimes, you really have the sensation of being transported by the glacier. I found that incredible. Sometimes, the cracking sounds were impressive. And then you see that it really comes from deep inside. That feeling was. . . I loved it. [. . .] I put myself in my own world. You have to take your time to breathe, and that's the only way you can—well, at least for me—that I could feel things, how things were going, how the glacier was living, because that's when you really realise that the glacier is alive.

Maurice has not been back there since he got cancer. He feels that the glacier is too associated with death and that he should not return to it if he hopes to heal. He now uses the meditative practice he has developed with the glacier to manage pain, and he has also taken up sylvotherapy.

There are also those who run *buvettes*, refreshment stands on both sides of the glacier. On the left bank, the hut that once overlooked the glacier is now located on the edge of a cliff that is gradually crumbling. The chalet is inevitably doomed to fall into the void in the medium term. This does not frighten Fabrice, who has been the caretaker for several decades. The hut had already been moved away several hundred metres a long time ago. Facing a glacier that is shying away, he set numerous automated cameras to document the retreat of its snout. The videos obtained by timelapse are striking, capturing both the movement and life of the glacier, invisible to the naked eye, and its inexorable retreat. On the other side of the glacier bed, the Cerro chalet used to offer a beautiful lateral view of the flank of the glacier from its terrace. Since about fifteen years, it has simply disappeared from the panorama, offering only the emptiness of its loss to contemplation. Its caretaker at the time of the survey, Mathieu, also became fond of the glacier, which he knew very little before, as he grew up in a hamlet further up the valley. He likes to listen to his visitors who knew the glacier before, telling their memories of ice school to their grandchildren, and he shares their emotions, the sadness and shock of not seeing the glacier anymore.

A member of *Boutch à Boutch*, an association of Chamonix residents that organises collective and non-commercial activities in the valley, Mathieu had the project to change the image of the glacier, "too often reduced to something sad and catastrophic", to propose "to go and see the life of the glacier" and to "re-enchant these ices, which are our common heritage". Ideas were circulated, such as the "slightly artistic" proposal of a procession, like for Pizol glacier, or that of giving the glacier a legal personality, while wondering what impact this could have. There was also the idea of erecting an "inverted cross", in reference to the crosses placed on the edge of the glaciers during the Little Ice Age to ask God to slow down their advance. He himself made this project a reality by erecting a 2-metre-high statue on the right bank, a little higher up than the memorial. An aeroplane metal sheet crumpled by the movements of the glacier and placed on a pedestal serves, according to him, to "materialise the retreat of the glacier", which was still in front of this spot at that time of erection and which was a few years later fifty metres away and much thinner. Between the two, one can now observe the "terrible beauty" of a proglacial lake in formation, following the retreat of the glacier. If for him, "there may be something mystical up there," he is more concerned about the possibility of an "animistic relationship", without

fear of “anthropomorphism”. For instance, he likes the engraving of a dragon-glacier made by Henry George Willink in 1892, an “interesting” representation for him.

Mathieu wrote the following short text, in which he adopts the point of view of the glacier:

Anthropomorph’ice...

It’s true, I scared you. My blocks rolled against your farms, my floods ravaged your fields. It must be said that at that young age, I was moving fast. So you planted your crosses and cut me into icicles. But I wanted to play with you! And to let you discover me, I kept my back to you. So, people came from all over the world to photograph me, they trained hard to go through me. What memories of that time! You tickled me with your steel points, explored my bluish entrails.

And then, taking advantage of my exaltation, you tamed my banks. Endless roads embraced me and here I am, the annoyed neighbour of this abject tunnel. So yes, I sulked, I stuck my tongue out for years. I also shaped this sad moraine between you and me. I wanted to keep you from touching me, to keep you from stepping on me. And lately I have been throwing huge seracs to scare you again, to keep you awake, to show you my existence, my eternal strength. But nothing has helped, when love is no longer there, the fight is in vain. Today, in my old age, I can only burst into tears, which is why I retire to the mountains like a hermit.

(Author’s translation)

With this text, as with his idea of “inverted cross”, Mathieu explicitly symmetrises the issues of the glacial extension of the Little Ice Age and those of the current retreat, echoing the inversion of the Fiesch prayer, as well as the glacial funerals, which are reminiscent of the Catholic processions of the 17th century.

3.3. *Melting Permafrost and New Sensory Attention Schemes*

But global warming is not just melting the glaciers that descend into the valleys. It also attacks the permafrost, the frozen water that seeps deep into the cracks in the rock faces and acts as a cement, holding the whole thing together. The very hot, scorching summers create heat waves that penetrate deep into the rock, leading to numerous rock falls, but also to major collapses, such as those that disfigured the west face of the Drus above Chamonix in 1997 and 2005 [10,40]. This instability also disrupts the relationship that mountaineers, and in particular mountain guides, have with these rock walls.

The visual artist Camille Llobet had the idea of bringing together in September 2022 the Valle d’Aosta guide Enrico Bonino; his partner, the mountaineer Ilaria Sonatore; and the geomorphologist from Chamonix, Ludovic Ravel (and to invite me along). All three were indirect witnesses of a major collapse in the Mont Blanc massif and an exchange about it in Camille’s documentary essay “Pacheû” [41]. The first two were beginning to climb a route on a rocky summit, the Trident du Tacul, in September 2018, when they quickly sensed that something was happening:

Enrico Bonino: [...] we started to hear noises, noises that came from the depths of the face, from the mountain, very dark, very loud sounds. To be honest, I wasn’t worried at first, because it sounded a lot like the noise that crevasses make in the early morning when the ice cracks, like the deep noises that come from the glacier. [...]

Ilaria Sonatore: It was different from the noise you often hear in the mountains, it was deeper, and [if] you remember the movie Titanic with the ship tearing off the iceberg, the sound of the metal, that’s what you heard, a deep noise. Quite loud and metallic [...] you start to really pay attention to the noises around you, you turn around, take a good look, you try to understand if there is something that is going to change... (44’5’')

They then decided to descend as quickly as possible, and they were well advised to do so, as a huge collapse of more than 40,000 cubic metres occurred in the hours that followed. The geomorphologist then tells of having abseiled down the same face the next day to recover ice from the collapse scar in order to date it, and in the process, he was very frightened, as the wall remained unstable, with incessant boulder falls around him. They then talk about how this episode has strongly shaken their perception of the environment, as this sector was until recently considered to be “eminently stable”, “with concrete rock”, where they were sure to be safe when the mountain became dangerous elsewhere.

Ludovic Ravel: [...] when you feel this mountain... well, I was going to say living, but no, it's almost like dying... you feel these signals that the mountain sends before collapsing, it's really... it's really striking [...]

Enrico Bonino: [...] now we don't have any more certainties. On the one hand, it's horrible because the mountain is suffering a lot. On the other hand, it gives us a bit of a boost.

Ludovic Ravel: That's it. Because you no longer have any certainties, you are obliged to have a very, very fine acuity, a very, very precise attention on the environment, on what you are climbing, the ice, the rock. And to pay attention to all these small signals which could make you say “here, be careful, we must go down”. (47'35")

This event helped them to perceive any rock face in the massif differently and to learn “how to listen to the mountain”, as Benoît, a mountain guide living in Chamonix, explains. When he arrives at the foot of a route, he starts by looking for stones on the snow, or dust, that have recently fallen from the rock wall, and if there are any suspicious flows or water resurgence. Then, he pays attention to the noises, in the first few metres and then throughout the climb, noises of water flowing under the rock, but also muffled noises, squeaks. It is a new regime of sensory attention that has been developing over the last few years, based on a new premise: the end of certainties, notably, that of a mountain, if not eternal, then at least eroding on a geological time scale that does not concern our short human lives. To the visual attention of the quest for the line, of the search for the route, existing or to be opened, is added that of the signals announcing an imminent collapse, which relies strongly, and this is new, on auditory acuity, the perception of noises and vibrations, which can be barely perceptible, deep, muffled. And we see that, in this case, too, the awareness that the mountain is changing very quickly leads to an appreciation of it as a being that lives, suffers, and dies.

4. Discussion

If we first look back at the erection of “inverted crosses” or the organisation of glacial funerals, we can see how such contemporary reactions share a family resemblance with ancient legends and stories that attributed the advance of the glaciers to a divine decision to punish deviant behaviour. Indeed, Lutz Röhrich identified a series of German-language Alpine legends, according to which:

Where snow, ice and stones now lie, where steep walls rise, there were once fertile fields, flowering gardens and welcoming meadows. In the form of ever-renewed variants, it is said that some impious action (profanation of bread, milk or other foods, ungranted hospitality, lack of affection for children, etc.) resulted in the destruction of the once flourishing alp [42] (p. 25). (Author's translation)

It is all too easy to see this as nothing more than superstition from a pre-scientific era: while all the people we met during the fieldwork did indeed attribute the melting of the glaciers to global warming, many also mentioned pollution, road traffic, rapid urbanisation, and even the desecration of the heights by the extension of ski areas and cable cars, as further explanations of the decay of their beloved mountains. Some guides in the valley, interviewed by *Le Monde* about the mountain collapsing as a result of the melting of the

permafrost, were furious: “we only get what we deserve”, “some people should better crawl underground”, “we are really murderers of nature” [43]. Those accusations can be understood as perfectly rational, but they also draw a bundle of guilt that is not so different from the impious actions of the past. Some of the reactions already mentioned can be equated with magical thinking, but not in the common sense, which understands it as the belief that words or ritual actions can directly influence the material world. Thus, erecting an “inverted cross” obviously does not aim to instantly stop the retreat of the glacier (did the erectors of the Little Ice Age crosses really expected such a miracle?), but more certainly responds to the need of not remaining passive in the face of major transformations of our environment, to regain control of events, by means of plausible explanations and actions, whose efficacy is certainly not climatic, but is rather symbolic and could be compared to shamanic rituals.

In a recently published article, the anthropologists Elisabetta Dall’Ò and Giovanni Gugg, by focusing on the performances, especially musical ones, taking place at “glacier funerals”, show how reaching an emotional level can help to make the changes more real than cold, rational facts:

“Requiems for glaciers allow us to feel more clearly and more intimately the epochal process we are experiencing, intensify our sense of connection with others—human and non-human—and with the ecosystem, but above all create a substratum favourable to the sentimental elaboration and cognitive interpretation of a phenomenon—climate change—which, to date, we are still unable to understand in its entirety with rationality alone, nor to manage with the mere accumulation of data and information, however essential they may be” [44] (p. 110). (Author’s translation)

I agree with this interpretation, which is close to the analysis I made of the ceremonies organised during the gatherings that promote the rights of nature [27]. However, more can be said about such rituals. About the funeral of the Okjökull glacier, the French philosopher Olivier Remaud writes in his magnificent book *Penser comme un iceberg* [*Thinking like an Iceberg*]:

“The participants did not lay a plaque in order to go back, as much as possible, to their ordinary lives. The purpose of their open-air assembly is different: to witness the passage from life to death of a glacier and to refuse to allow other glaciers to die out in indifference. They are fighting against anonymity and for the recognition of a form of life. They inaugurate a process of ritualisation that is, in law, unlimited and generalisable. They inscribe their claim to remembrance in the ground and want everyone to respond. There is no reason to end the work of mourning. The drama of this disappearance must not be forgotten. Unlike a classical commemoration, the ritual does not aim to tame the emotion of the loss. It is a call to continued action” [45] (pp. 158–159). (Author’s translation)

Although it is difficult to corroborate, in my Alpine fieldwork and at this stage of the investigation, the political significance he attributes to these new rituals, he is right on target when he speaks of the recognition of a form of life. From a glaciological perspective, a glacier is a “perennial mass of ice, and possibly firn and snow, originating on the land surface by the recrystallization of snow or other forms of solid precipitation and showing evidence of past or present flow” [46]. The notion of flow or flux is fundamental: to be a glacier, there must be an advancing mass of ice; otherwise, it is defined in the same glossary as “dead ice”. If there is dead ice, it means there is also living ice, and in fact, geomorphologists and mountain people, glaciologists and ordinary visitors, and especially the persons I talked with during the research, all agree that glaciers are alive: they emanate a “presence”, they “live”, “stretch”, “contract”, and “speak”, but also “weep”, “sweat”, “suffer”, “cry”, “retreat” and, more and more frequently, “die”. The most rational minds will be happy to reduce these views to “anthropomorphism”, that Godwin point of discussions about the relationship between human and non-human beings. Remaud rightly replies

that “the anthropomorphisation of glaciers does not aim to scientifically demonstrate their nature as living beings”, but “simply attests to a long history of intimate links, sometimes visible, sometimes invisible”. According to him, animist societies “describe relations between non-humans as much as relations between humans and non-humans in terms of inter-human relations in general:” “The ‘sociocentrism’ of people living near glaciers is their only linguistic tool. It does not impose any representation of the world. It reflects a central aspect of their daily life with ice entities” [45] (p. 160).

Mountain Beings, Animism, and the “Lifeworld”

Let us remember the lesson given to the anthropologist A. Irving Hallowell by an old man of the Ojibwe Amerindian nation: not all stones are alive, but some are [28]. The same would be true of mountains for those who frequent them assiduously. As we have just seen, the living character of glaciers, but also of rock walls, is easily and generically recognised by their movements, their noises, and the fragility of their existence, which in fact refers to our own. But there is more than that. It is also about attributing a personality and a character to some of them, a personalisation that often results from a long association, sensitive relationships, and the slow construction of an attachment. It is not so much about discussing the validity of attributing particular qualities, of living being or of person, to the mountain or to certain particular entities as about recognising the primary character of animacy in what phenomenologists call the “Lifeworld” [47]. Animist thought, according to British anthropologist Tim Ingold, constitutes an “ontology of dwelling”, in which all humans without distinction, in the same way as other creatures, are immersed in “an active, practical and perceptual engagement with constituents of the dwelt-in world” [48] (p. 42), in which “the relations that human beings have with one another form just one part of the total field of relations embracing all living things” [48] (p. 59). In a complete reversal of perspective, “the animacy of the lifeworld, in short, is not the result of an infusion of spirit into substance, or of agency into materiality, but is rather ontologically prior to their differentiation” [49] (p. 10). Animism is not then the ability to recognise an animacy or spirit that animates some beings and not others, but a more general philosophical perspective, which would be expressed particularly on the occasion of certain encounters. The research carried out thus shows how interactions with mountain beings, more and more perceived as moving, fragile, in danger, and therefore singularly inhabited by a life that threatens to leave them, make one sensitive to these states of animacy.

However, reaching a level of perception beyond the discursive level grasped by interviews, as well as by in situ conversations, would strengthen this statement. Their analysis reveal that such a discursive level remains too far from the concrete experience of the sensitive interrelationships experienced by my interlocutors to account for and unfold all that is at stake in these interactions. To explore and document further the contours of this relational animism, which includes all forms of relationships with non-humans at odds with the objectivisation and instrumentalisation proper to naturalism, an innovative methodological approach with an experimental framework needs to be developed. It should draw inspiration from the cognitive anthropology of Maurice Bloch [50] and the study of Amazonian animism, which mixed the ethnography and experimental cognitive approach, conducted by Martin Fortier, too soon deceased [51]. An option would be to mobilise micro-phenomenological and video elicitation interview techniques [52–57] through the confrontation with traces of interactions obtained by audio–visual recording. By using specific interview techniques, the aim would be to access modes of perception and action that usually remain at the level of the pre-reflexive consciousness of lived experience and that are censored in conscious discourse due to the predominance of naturalistic ontology in our societies. The hypothesis is that by making explicit this unthought of level, it could become possible to better grasp and characterise these interrelations with inorganic beings, which are otherwise only expressed in the form of discrete traces. The very fine documentation of visual, audio, tactile, kinaesthetic, and olfactive sensations of interaction with a decaying mountain, and particularly with receding glaciers, unstable moraines,

and collapsing rock walls, but also sensations of absence (emptiness resulting from glacier retreat), feelings of (in)stability, atmospheric feeling, etc., could unfold these first-person experiences and better characterise how they can be qualified as animistic.

The disappearance of the Alpine glaciers is, therefore, much more significant than the cold clinical check-ups (such as mass balances) of the glaciologists. Beyond their well-documented effects on water availability, biodiversity, agriculture, hydroelectricity, or tourism economy, the loss of the glaciers has a severe impact on the high-mountain people, revealing to them the various forms of attachment they have built up with these entities and revealing the ephemeral nature of these interactions, which are destined to disappear. These men and women are looking for multiple ways to make sense of this end and to keep a grip on events. Some speak of a process of mourning, and it is indeed something of this kind, which allows grasping the human and non-human disappearances together, to express one's emotions and to share them with those who remain. Mourning is also a way of recognising the very existence and personality of the retreating glaciers, of remembering the moments lived together, and finally, of projecting oneself into the aftermath, into the life that goes on. The immobile ice under a thick layer of rock of the glacier snout may be dead, but already pioneer plants and microorganisms are bringing other forms of life to the abandoned moraines and proglacial lakes. Éric, a mountain guide who likes to take his clients to Mont Blanc via the upper part of the *glacier des Bossons*, says he can already imagine the access path made of rock and soil that will slowly appear when the glacier retreats even higher, and it will be a lively landscape too.

Funding: This research was funded by the Swiss National Science Foundation (P5R5PS_203062).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: The author gratefully acknowledges all the persons approached during the study who made it possible and shared their knowledge, personal history, perceptions, and so on. He also acknowledges insightful comments from the anonymous reviewers that greatly strengthened this paper.

Conflicts of Interest: The author declares no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

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