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Author(s):   Isomursu, Esa Pekka; Jokela, Timo

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Truthfulness in Nature Landscape Photography

Esa Pekka Isomursu[1,2] and Timo Jokela[1]
1) University of Lapland, Finland
2) Oulu University of Applied Sciences, Finland

A photograph always has a direct physical connection to reality because it is formed when light from the photographed object(s) forms an image on film or a camera sensor (Barthes, 1981). However, a photograph is also always an incomplete representation of the real world, and its meaning is limited and prone to interpretation. In this chapter, we examine nature landscape photographs of the North: How truthfully and in what ways can they convey relevant aspects of nature to the viewer?

We first discuss key concepts and terminology. Then, we introduce a nationwide survey about how photographers perceive "real" in nature landscape photographs in Finland. We discuss the results with regard to related literature and works of art. We then identify and categorise various ways to interpret "real" in nature landscape photography. The categories enable the identification of possibilities for future interpretations of "real" in Northern and Arctic nature landscape photography. Finally, we outline an extensive research task and a design for long-term interpretational-experiential art-based action research (Jokela & Huhmarniemi, 2018).

Key Concepts and Terminology

A central concept in this chapter is landscape, which we understand as part of the Western way of seeing and interpreting natural surroundings (Andrews, 1999; Muir, 1999). We use the term *nature landscape* and understand its overlap with the concept of the environment in environmental aesthetics (Berleant, 1992). Berleant (1992) emphasises that the environment does not only surround us but that we, as experiencers, are fused with it, are sensorially fully immersed in it, and are, thus in fact, on the same continuum with it. The landscape "becomes the field of human action, not merely a visual object. Entering and participating in the landscape requires full sensory involvement" (Berleant, 1992, p. 6). We also understand the concept of nature landscape as overlapping with the cultural geography concept of place (Muir, 1999), which arises through the creation of meaning by humans based on their experiences of a place.

Figure 1. One of the "Instagram trophies" in Northern Finland, Saana Fell, as seen from a beaten path. Saana is a sacred mountain of the Sami People. Photograph: Esa Pekka Isomursu, 2022.

Nature photography, alongside photojournalism, is thought to be one of the last fortresses of the authentic image. This is particularly true when it comes to the North and the Arctic, where photography has played an important role in making the region and its nature known to the general audience in a way that we can see, for example, in the book *The Arctic: The complete story* (Sale, 2008), where photographs are used as truthful documents that reveal the nature of the Arctic.

However, a closer examination reveals other views. According to Chartier (2018, p. 73), the North has been imagined and represented for centuries by artists and writers of the Western world. Over time and with the accumulation of successive layers of discourses, this has led to the creation of an *Imagined North*. Today, the Arctic region has attracted the interest of international artists, who have considered the changing rela-

Figure 2. Even during the off-season, there are plenty of photographers at "trophy locations" in Lofoten. Photograph: Esa Pekka Isomursu, 2018.

tions of art, media, and aesthetics within the Arctic region (Bloom, 2022; Marsching & Polli, 2012). On the other hand, the concept of a *True North* became known in Francis's travel book (2010), where he critically dismantled how the landscape of Arctic Europe has seduced explorers and adventurers for hundreds of years. True North was also the name of an Anchorage Art Museum exhibition in 2012, where, according to the curator Julie Decker (2012, p. 7), the artists' view of the Northern landscape was "… not the romantic North that belonged to former generations. It is the next North. Their North is connected, pivotal, and conflicted, both rarefied and ubiquitous." Recently, a strong effort has emerged in arts to make the visions and voices of the insiders of the North noticed when discussing the future of the North and the Arctic (Beer, 2014; Chartier, 2018; Decker, 2012; Huhmarniemi & Jokela, 2020a, 2020b; Jokela et al., 2021).

The image of the North and the Arctic is no longer built only by visitors to the area, but increasingly also by the residents of the region themselves, including ordinary people as well as artists. Nature photography, artmaking in general, and research in the Northern regions all follow this trend. Today, photography is a hobby as well as a profession for an increasing number of locals around the circumpolar North (Far North Photo Festival, 2022). Nature photography as a form of creative industry, often connected with sustainable and responsible tourism, has also been seen as an opportunity for a new economic activity breaking away from the colonial tradition of the exploitation of natural resources in the North (Jokela & Huhmarniemi, 2020; Jokela et al., 2022). At the same time, one may expect the insiders' view of art, including nature photography, to increase the authenticity and truthfulness of images of the North.

On the other hand, the number of tourists visiting the North has also grown substantially. The Internet and social media have made it easy to locate iconic, well-known landscapes, which have become "Instagram trophies", i.e. places to be hunted down with a camera to get one's own photographs that are likely to resemble numerous other images from the same place (Figure 1). Nowadays, social media is filled with images that virtually every visitor takes of these locations and on such a scale that in many places environmental protection has become an issue (Figure 2). The phenomenon is global, but the fragility of nature in the North and the Arctic and the growth of nature tourism mean that nature is more at risk there (Jóhannesson et al., 2022).

Interesting perspectives on Northern landscape photography are also provided by posthumanism (Nayar, 2014). From the transhuman perspective, we can examine how the real world could look without the limitations of human perception. Nature photography could also be a corporeal, multisensory experience, not limited to visual perception (Figures 1 & 2).

Advanced photo editing tools and augmented, mixed, and virtual reality, as well as images generated by Artificial Intelligence (AI), further change and complicate the perception of our visual milieu. In photography, they place the relationships between truth, authenticity, and representation in a new light. Nowadays, Chartier's Imagined North is increasingly easy for everyone to recreate themselves, and this is already being exploited in, for example, nature photography and tourism.

We live in an era where image manipulation is easy and accessible to virtually everyone. Equipment that a few years ago was considered professional, and priced accordingly, is now within the reach of amateurs as well. Especially on social media, some images are so photoshopped that they no longer portray reality (Figure 3). They can be seen as simulacra that are detached from their original referents, creating instead a hyperreality

Figure 3. A simulacrum that creates its own reality of northern nature. Photoshopped photograph: Esa Pekka Isomursu, 2023.

in which the photograph replaces reality itself. The concept of simulacrum in this sense was introduced by the French philosopher Jean Baudrillard (1981) to describe how reality is constructed through representation and media. In the case of nature photographs, these images are often staged, manipulated, or taken out of context, creating a layered representation of reality that is separate from the actual natural world. The photograph becomes a simulacrum, a copy without an original, that obscures our understanding of the true nature of the environment being depicted.

Chartier's analysis of the North as an imagined and constructed space echoes Baudrillard's ideas about the hyperreal. Chartier, however, does not imply that the Imagined North is completely detached from reality. Rather, it is a reality that is based on a narrow outsider's view, not always based on knowledge, and almost totally ignoring the views of the Northern cultures. While Baudrillard rather pessimistically focuses on the collapse of meaning and the loss of the real, Chartier is more focused on the complex cultural and historical processes that shape our ideas and representations of the real.

From the very beginning, Finnish nature photography has followed a national romantic landscape tradition (Inha et al., 2016), gradually bringing birds and other fauna into the landscapes (Hautala, 1968; Kokko, 1950). Although this tradition is still strong in the 21st century, the photographs taken nowadays are much more diversified. Accordingly, they can be interpreted, and their truthfulness can be questioned in new ways. In this chapter, interpretations of the truthfulness in nature landscape photographs are examined from a perspective where individuals and societies construct their own versions of truth based on their experiences, beliefs, and concepts (Berger & Luckmann, 1966).

Nature photographers and their audiences tend to be passionate about the truthfulness of nature photographs. However, everyone has their own subjective view of what truthfulness means in this context. Understanding the various interpretations fosters meaningful debate within the photographic community and paves the way for new interpretations of "real" in nature photographs. Benjamin (1972) points out that it is impossible to translate from one language to another and preserve all the original connotations, so it should be noted that our survey was in Finnish. The Finnish term typically used for truthfulness in this context is "aito". It directly translates into English as "real", and conveys quite similar connotations to "truthful", or "verisimilar". In this chapter, our notion of "real" covers all the various ways in which nature landscape photographs convey aspects of true nature to the viewer, and the aim of our survey is to identify these ways. Next, we introduce the survey and after that discuss in more detail the various ways that we have identified to interpret "real" in the context of nature landscape photographs.

Nationwide Survey

Survey Settings

The survey was conducted online using the Webropol (2022) survey tool. The invitation to participate was distributed nationwide via national and local photography organizations as well as social media. The questionnaire was completed by 342 people. The respondents also submitted 159 photographs of their own of what they felt to be good examples of real nature landscapes and 74 images that they did not consider to be real.

Based on the presumption that age, skill level in photography, and interest level in nature photography might influence the respondents' opinions, the participants were asked about these in the questionnaire (Figure 4). They were not asked to specify their gender.
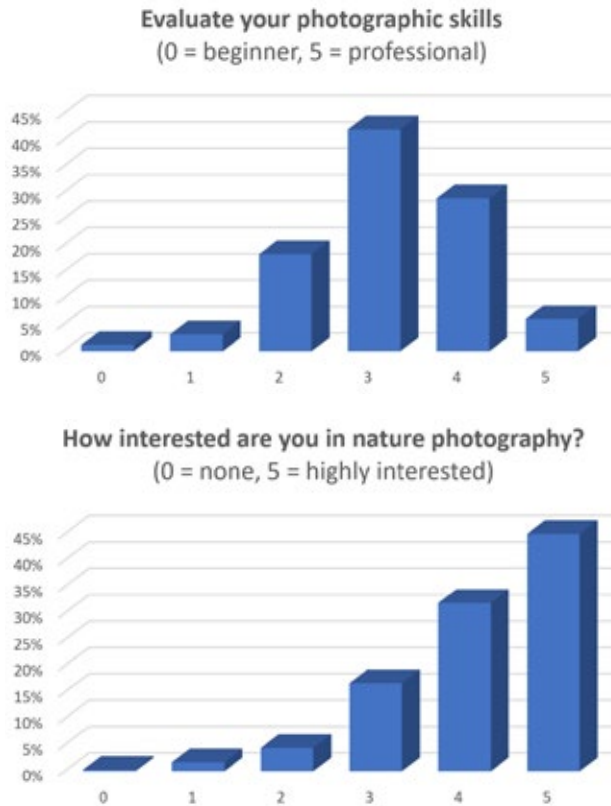
Figure 4. Survey Demographics (n = 342).

Next, the respondents were asked to describe in their own words what defines a nature landscape photograph as real. The qualitative, open-ended format of the question made it possible to cover all possible aspects of verisimilitude that came to mind when they thought of the concept. A predetermined list of alternatives would have narrowed their thinking, and some aspects of their views would probably have stayed hidden. Thus, at the cost of vague categorization and the more tedious analysis of the answers afterwards, a wider perspective on verisimilitude was received from the respondents.

The opposite was also asked: What makes a nature landscape photograph not appear real? While this may seem redundant at first, the approach proved to be very useful. Most of the respondents expanded their views and did not just repeat their previous answers, resulting in more comprehensive answers. This method of repetitious inquiry was further encouraged when the respondents were given the possibility to submit images that they considered to be real (Figure 5) or not real (Figure 6) and explain why they had chosen those images.

Finally, to identify any other relevant thoughts, the respondents were asked to write down anything they wanted to add. Even at this point, the participants still contributed new ideas. Varying the basic question and asking it in multiple ways were clearly beneficial.

One should understand certain details and limitations of the methodology used for the interpretation of the survey results. As the answers were mostly qualitative, and the answer categories were created after the survey, they are prone to the analyser's subjective interpretation. This potentially makes the results more inaccurate. Moreover, since no predefined categories were given in the questionnaire, the selection rate for many of the afterwards-defined categories was relatively low. Even the most widely used category, "moderately adjusted and not manipulated", was only mentioned by 64% of the respondents. The percentage shows how many respondents thought the category to be significant enough to be included in their answers. It does not mean that the rest of the respondents would necessarily have disagreed with the category. Thus, the percentages show a minimum support level for each category instead of the total level. When interpreting the results, the key was to recognise features about which a significant number of respondents had an opinion and not to focus on the exact percentages. If, for example, only 10% of the respondents mentioned a category, this revealed that, as a minimum, over 30 people thought that category to be significant, which is already a considerable number. Similarly, when comparing different age groups or photographic skill levels, it was important to recognise significant differences in the answers between groups and, again, not to look at the percentages per se. For such a result to be considered signifi-

Figure 5. (above) A sample of images that were considered to be real ("aito") by the survey respondents. (Photos included with permission. Photographers are listed after the references.)

Figure 6. (below) A sample of images that were considered not to be real ("epäaito") by the survey respondents. (Photos included with permission. Photographers are listed after the references.)
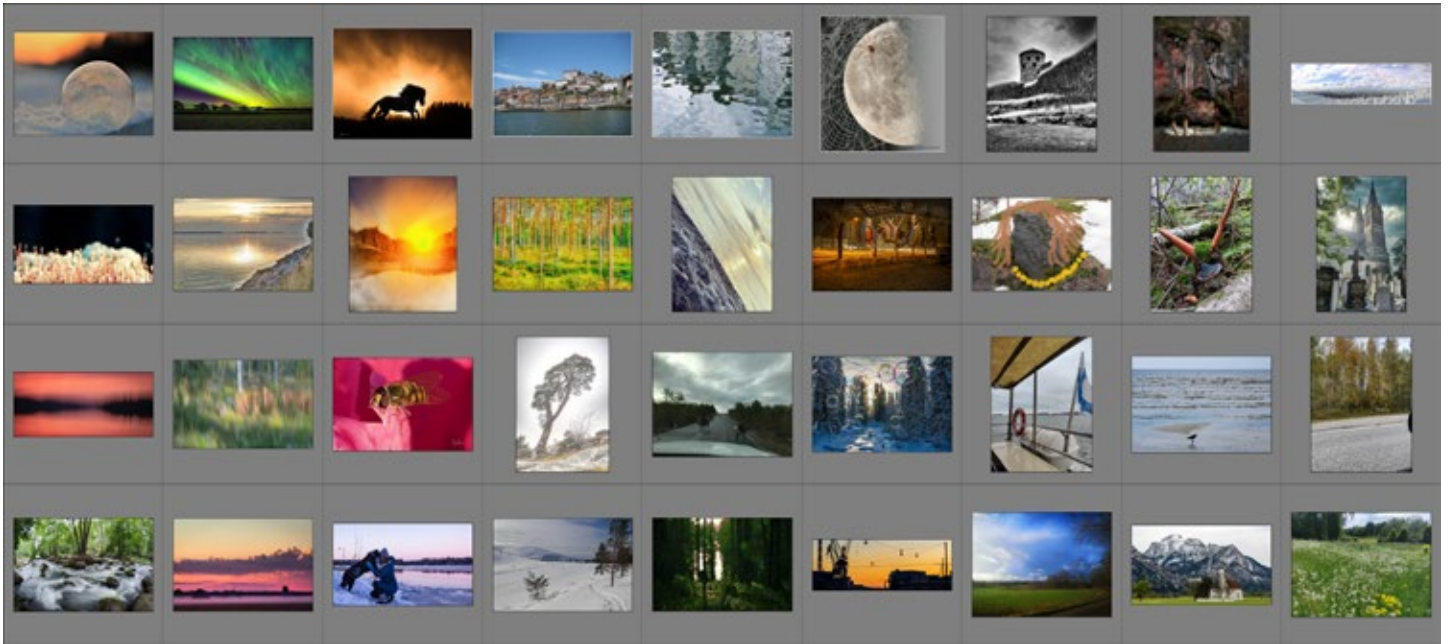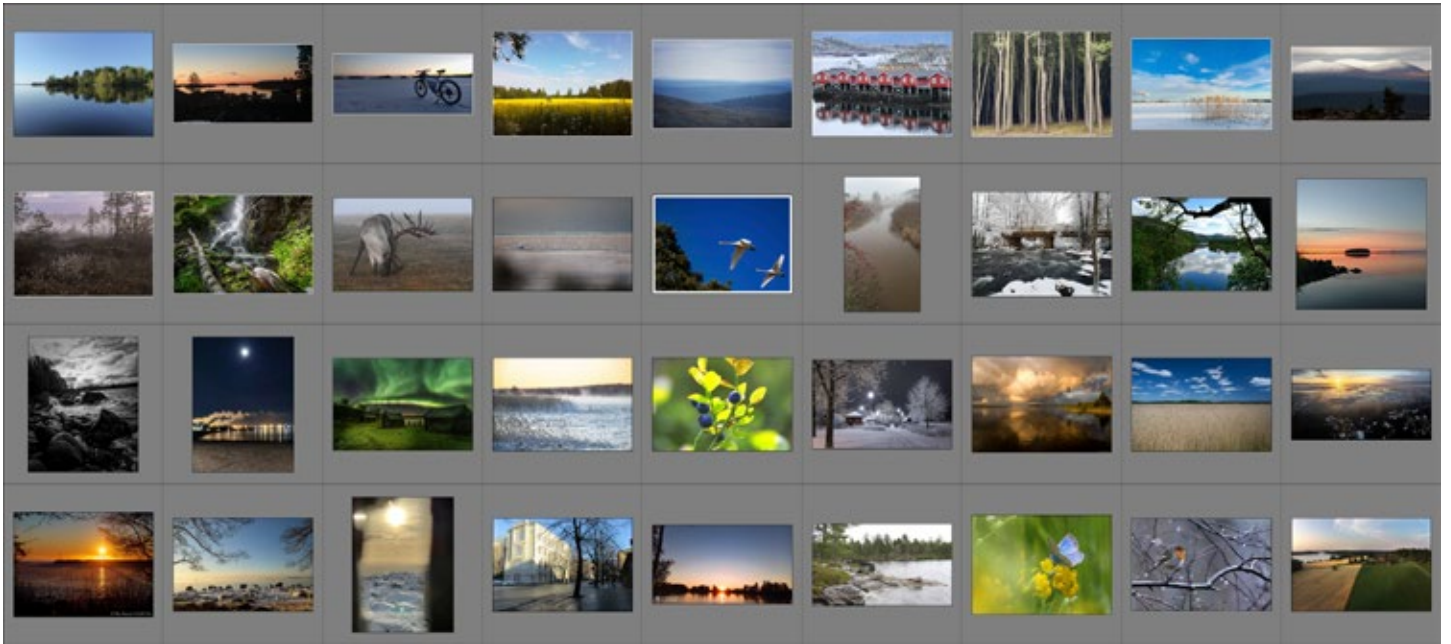
cant, a minimum difference of 5% between categories was set as a requirement. For the above-mentioned reasons, although percentages are mentioned in some cases, terms like "most of", "many", and "some" are more typically used.

Survey Results

The most common answer to the question of what makes a nature landscape photograph "real" was that such a photograph is only moderately adjusted and not manipulated, e.g. by adding or removing elements. This was mentioned by most of the respondents in one form or another. In particular, altering or oversaturating the colours is a definite "no" for many. In general, these answers were consistent with the rules of allowed editing in most major nature photography competitions, such as Wildlife Photographer of the Year (National History Museum, 2023), European Wildlife Photographer of the Year (German Society for Nature Photography, 2023), or the Finnish Nature Photograph of the Year (Suomen Luonnonvalokuvaajat, 2023). The following is a direct quote from one respondent (this and later quotes without references are direct answers to the questionnaire):

> An image [is real if it] has not been over-processed by image processing. Admittedly, this is difficult to define.

Many of the respondents also stated that for an image to be real it should be documentary, reflecting what the human eye saw in a real situation. This excludes creative techniques, which as a concept are ambiguously defined. The respondents typically mentioned specific creative techniques and not creative techniques in general. Based on the survey answers, creative techniques in this study were perceived to include multiple exposures, merging (parts of) images in editing, intentional camera movement (ICM), high dynamic range (HDR), the creative use of filters, long exposure times, and excessive image manipulation beyond normal editing. Normal editing that was not considered excessive covered techniques such as moderate adjustments made to the contrast, saturation, and lightness of specific areas of the photograph or the whole image. The following techniques received scattered mentions as creative techniques: oversharpening, black and white images, mirror images, drones, and vignetting. In Figure 5, the sample of images that the survey respondents identified as "real" clearly shows the dominance of the documentary style (cf. Sale, 2008), as well as the ongoing tradition of national romanticism, which was discussed earlier.

Creative techniques have their supporters as well. Interestingly, about as many people expressed their support for creative techniques as were opposed to them (Figure 7).
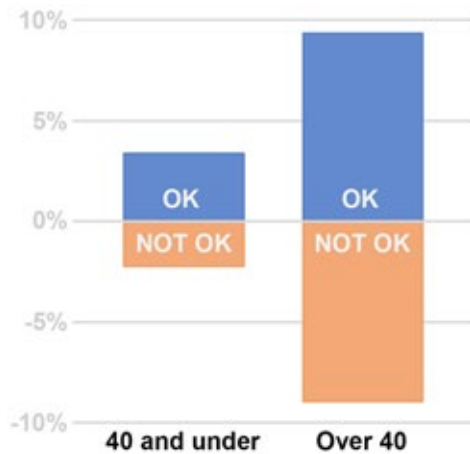
Figure 7. Responses for and against creative techniques (n = 51) and an example of a creative etchnique: In-camera multiple exposure. Photograph: Esa Pekka Isomursu, 2020.
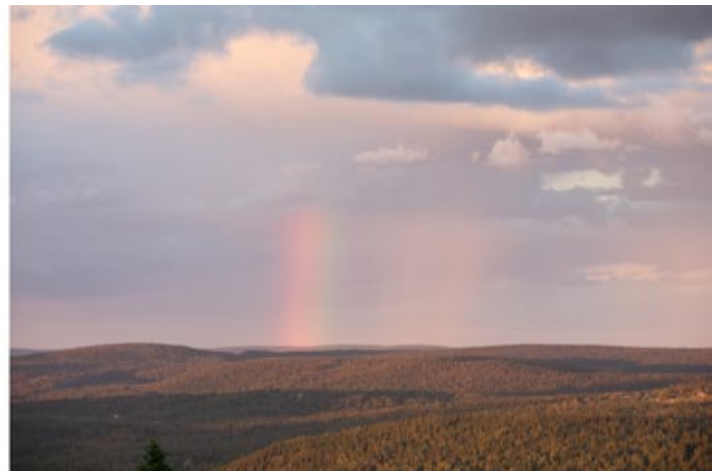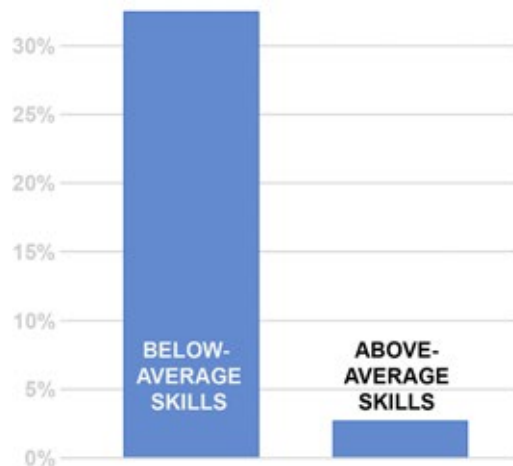
Figure 8. Skill level (cale: 0 = beginner to 5 = professional) vs "A real nature landscape photograph should be completely or almost completely unedited" and an xample of an "unedited" landscape photograph. Photograph: Esa Pekka Isomursu 2020.

Furthermore, respondents aged over 40 were 3 times more likely to mention creative techniques than younger ones. When these results were discussed in a meeting of a local nature photographers' association, one probable cause for the age bias was suggested: perhaps people start with "traditional" photography, and as their skill level increases, they progress from using basic techniques to employing more creative techniques, with some permanently adopting them and some rejecting them after experimenting for a while. This proposition is also supported by the fact that half of the respondents aged over 40 considered themselves very skilled photographers, compared to 28% of the younger respondents (answer 4–5 on a scale from 0 = beginner to 5 = professional).

One might assume that since the younger generations have grown up seeing all kinds of image manipulation, they would be more willing to accept it. However, the survey results showed the opposite. The younger respondents (40 or under) held much stricter views regarding image manipulation than the older ones. Of the respondents that were 40 years or younger, 72% thought that image manipulation or heavy adjustment is not acceptable, whereas only 61% of the respondents over 40 shared this opinion. While there was a rather big difference in opinions between age groups, the difference was tenfold between skill levels, regardless of age (Figure 8). A third of the respondents with below-average skill levels stated that a real nature landscape photograph should be completely or almost completely unedited. However, this view was shared by less than 3% of those with above-average skill levels. The study by Yao et al. (2017) supports our findings if we consider image editing skills to be a part of advanced photography skills: their study showed that people using Photoshop accept more photo alterations than those that do not use this tool.

The photograph in Figure 8 is straight from an SLR camera without any further editing, not even cropping. However, as some respondents pointed out, even an image like this is not totally unedited since the camera processes the raw image into a jpeg or other format according to its own algorithms.

Opinions were also divided on whether traces of human activity could be visible (i.e. man-made objects, domestic animals, traces of forestry, humans themselves …). This, maybe more than any other aspect of the survey, included many shades of grey. Some were fine with cityscapes where there were elements of nature present. Others did not allow the slightest trace of human presence. Drawing a line somewhere between the extremes is complicated. Over 75% of Finland's land area is forests—the highest percentage in Europe. Although Finland also has by far the highest proportion of primary forests in Europe, they cover only 2.9% of the national territory (Sabatini et al., 2018). Most of

Figure 9. By cropping, one can alter the message and leave out "truths" from an image. Photograph: Esa Pekka Isomursu, 2021.

what is considered wilderness has at some point been altered by humans (Ministry of Agriculture and Forestry of Finland, 2021). If we also consider indirect human influence, such as the effects of pollution and climate change, most images we perceive as showing pure nature include traces of human presence. Each photographer and viewer must draw their own line in terms of what they consider to be wild nature.

Another issue related to (not) showing traces of human activity is the cropping of photographs, either by leaving things out when capturing the image or by cropping afterwards during editing. Figure 9 shows the same photograph cropped in two different ways. While the tighter cropping conveys the feeling of a remote wilderness, the looser cropping includes parked camper vans, roads, and a ski slope. Of course, there is no single answer as to the right way to crop the image as it depends on the message that the photographer wishes to convey. In this case, the first image is cropped to show the wilderness of the national park, focusing on its pristine nature, whereas the latter reveals its coexistence with an adjacent ski resort.

> The image is [unreal if it is] cropped to show only things that are perceived as wonderful or nice.

Andrews (1999, 3-4) identifies cropping as an inherent part of the process through which land (the physical entity) turns into a landscape (a more abstract concept) when the land is perceived by the viewer: "[…] in the conversion of land into landscape a

perceptual process has already begun whereby that material is prepared as an appropriate subject for the painter or photographer, or simply for absorption as a gratifying aesthetic experience." A landscape is what the viewer has selected from the land, in accordance with certain conventional ideas about what constitutes a "good view". Thus, cropping is inherent in a landscape regardless of whether we crop a landscape photograph in editing.

Identified Interpretations of "Real"

Based on the survey results, we have identified and categorised various ways to interpret "real" in nature landscape photography. Each category brings out a unique perspective on perceived reality. The categories have been named accordingly as Subjective, Physical, Emotional, Extended, and Metaphysical Reality. They are depicted in Figure 10 with some sample photographs that represent each category. The photographs in Figure 10 are included to give an idea about the ongoing art-based action research on each topic. They will be discussed further in future publications that follow the research plan laid out in this chapter.
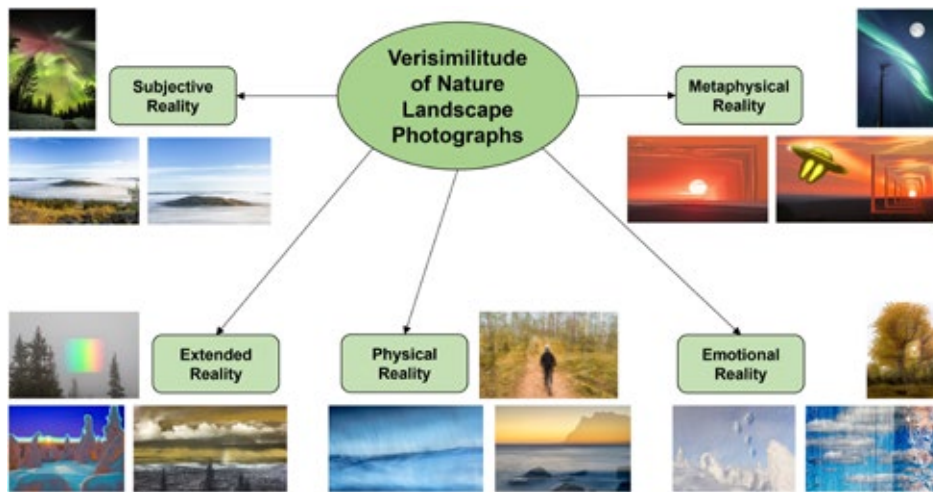
Figure 10. Various ways to interpret "real" in nature landscape photography. Photographs: Esa Pekka Isomursu, 2015–2023.

1) Subjective Reality

The most straightforward way to photograph "real" nature landscapes is to capture the natural environment as it is in a documentary style, without manipulation or artificial enhancements and with minimal or moderate image adjustments. It also involves using a realistic colour palette, accurate exposure, and sharp details. According to the survey, this is by far the most popular approach.

> Landscape images also remind me of historical paintings made before the advent of photography, for example, those of Koli. I think this conception still influences many people's perception of how to 'authentically' depict a landscape. In other words, a rugged, age-old landscape without human constructions.

However, each person has their own opinion on where the boundaries lie with regard to moderate adjustments. Many classic images clearly fall into this category, but there are also many images that some would accept as real, and others would not.

> [...] it can be said that a landscape photograph produced by a telephoto lens is not 'natural' because it compresses the perspective, and the human eye cannot even see the same way. However, the picture shows nature or a landscape without adding anything that was not originally there [...].

> Quite often you see photographers emphasize that the image is 'unedited' or 'straight from the camera'. Sometimes you feel like pointing out that it probably should have been edited. I think basic adjustments are always necessary.

2) Extended Reality

The concept of verisimilitude in nature landscape photography is closely tied to the human perception of reality. The human eye has several limitations that can affect our perception of the world around us. Visible light, which roughly covers wavelengths ranging from 380 to 750 nanometres, is only a narrow part of the whole electromagnetic spectrum. As the human eye has a limited number of photoreceptor cells, its resolution and dynamic range are limited. The field of view is narrow and thus always cropped. Various visual illusions reveal further limitations of the visual system. If these limitations were removed, the way we see nature would be significantly different. We can explore these limits with photography.

Camera sensors typically detect infrared (IR) and ultraviolet (UV) light. However, to create images that correspond to what we normally see, these wavelengths are blocked out with a bandpass filter positioned in front of the sensor. A camera can be modified

for IR or UV by mechanically removing the filter and, possibly, adding a new filter with different properties. However, other problems may exist. For example, modern lenses typically block UV light.

Possibilities for extending beyond human vision do not stop with IR and UV. Other potential areas for study include spectral imaging and cosmic radiation. Macro photography could also fall under this category, but it is not typically considered to be part of landscape photography, although 2 people out of the 342 respondents included it in the survey.

3) Physical Reality

Merleau-Ponty (1962) emphasises perception and the body as the primary site of knowing the world, instead of the consciousness or the mind. Likewise, the human experience of landscape is the experience of a body in motion in an environment that does not stand still (Harvey, 2014). While a nature landscape photograph can evoke emotions and feelings related to being in nature, it cannot fully convey the actual physical experience of being there. This is because photographs are limited in their ability to capture the full sensory experience, including smells, sounds, and tactile sensations. However, it is worth exploring the extent to which it is possible to convey the photographer's corporeal experience of nature via the photograph.

Shusterman (2012) argues that we tend to identify photographic art so one-sidedly with regard to the end products, i.e. the photographs themselves, that it occludes the aesthetics arising from the somatic, performative process of taking the photograph. If a photograph could guide the viewer to realise the process of making it, it would help the viewer to experience the nature behind the image more comprehensively.

A simple and much-used way to emphasise the creation process is to include the photographer or other people in the photograph. A classic example, although not a photograph, is the first engraving of Niagara Falls from circa 1679 (Andrews, 1999). In the image, one spectator holds his head in his hands while others have raised their hands in awe. This reinforces the idea of them being overwhelmed by the spectacle. A more contemporary example is Arno Rafael Minkkinen (1999), who incorporates his own nude body into isolated settings, emphasizing its bond with the natural world.

In his writing on Cézanne's series of impressionist oil paintings of Mont Sainte-Victoire, Merleau-Ponty (1964) points out that Cézanne not only shows the landscape but also leaves visible the elements that make up the painting. There are traces of brushstrokes, which are easily recognizable as such, and the canvas is not entirely covered with paint. It is not only the subject matter of the painting but rather all these elements

together that convey the artist's vision. Similarly, leaving technical properties visible in a photograph can add to the viewer's connection with the landscape that the photograph depicts. These technical properties could include using an unusual focal length or leaving sensor noise, vignetting, and other deficiencies visible in the final image. Following Harvey's above-mentioned idea that landscape is a dynamic experience, one could also show movement caused by the photographer or by elements of nature in the image.

4) Emotional Reality

According to Andrews (1999), "truth to nature" can mean two things: an analytical understanding of "deep" nature and its accurate rendering or what might be called the emotional truth to nature. Cézanne referred to the latter meaning when he famously said that painting from nature is not copying the object but realizing one's sensation (Gasquet, 1991). In this approach, an authentic work of landscape art becomes a subjective response to the feeling the subject evokes in the artist instead of the meticulous copying of the subject's direct visual image into the artwork. Many of the survey respondents referred to this "emotional reality" when they accepted the use of creative techniques:

> […] very strong editing could look distorted, but I'm not sure if I see it as unreal. The modified image is the author's view of the landscape. Is a drawing of a landscape inauthentic? I don't look at paintings as not real because they are painted. Instead, I see in them an artist's vision of the landscape, which is as real as someone else's.

> I think that the concept of the so-called authentic landscape has fortunately expanded over the years. The pejorative talk of 'art' pictures has diminished, and even creative use of the camera is accepted.

As mentioned earlier, creative techniques divide photographers quite markedly into supporters and opponents. However, there is a significant group of photographers who consider photographs depicting emotions to be "real", regardless of the technique used.

5) Metaphysical Reality

> It's horrible when you can't trust a photograph anymore.

Earlier, we discussed the constructed realities of Chartier's Imagined North and Baudrillard's simulacrum. We can take this line of thought on the boundaries of reality much further. Contemplating the simulation hypothesis, Bostrom (2003) shows that, if certain assumptions are likely to be true, then we are almost certainly living in a simulation.

The recent AI tools in photograph-like image creation have been considered a breakthrough. AI was only mentioned by one respondent, but had the survey been conducted in 2023, many would likely have brought it up. The respondent rightfully pointed out that the use of AI in image creation is not black and white:

> How about […] AI? If the adjustments made by the camera are accepted, where do you draw the line?

An interesting case is the "Space Zoom" capability of certain smartphones. These phones use AI to detect the moon's presence in a photograph and use predefined data to enhance the image beyond what is possible with traditional image-enhancing techniques. One might argue that this technique creates new details and is thus on the borderline of being fake. Johnson (2023, para. 9) points out that "every photo taken with a digital camera is based on a little computer making some guesses". When these techniques become increasingly sophisticated, it becomes ever harder to draw the line between "real" and "not real".

Nowadays, "photographs" as well as "paintings" and other artwork are efficiently and easily created with the assistance of AI, such as Midjourney or DALL-E2. While these images are not photographs in the traditional sense, arguably their mere existence does influence the credibility and people's interpretation of actual photographs.

Proposal for Future Research

In this chapter, we have identified and categorised different ways of interpreting "real" in nature landscape photographs. The categories give an extensive understanding of possible interpretations in the context of Northern nature landscape photography. They consider the North from many angles, including Chartier's North as an imagined and constructed space and Baudrillard's ideas about the hyperreal, as well as the True North of Decker (2012), Francis (2010), and others.

On the other hand, the approaches in each category can also be somewhat agnostic with regard to the photographer's views of the North and being an outsider or an insider. The methods for capturing, for example, extended or emotional reality can be used to depict both the Imagined and True North in new ways, depending on the artist's intentions. Perhaps, therefore, this work could be a way to build cross-cultural bridges between the different worlds for both professional and amateur photographers, as well as for both outsiders and insiders of the Northern regions.
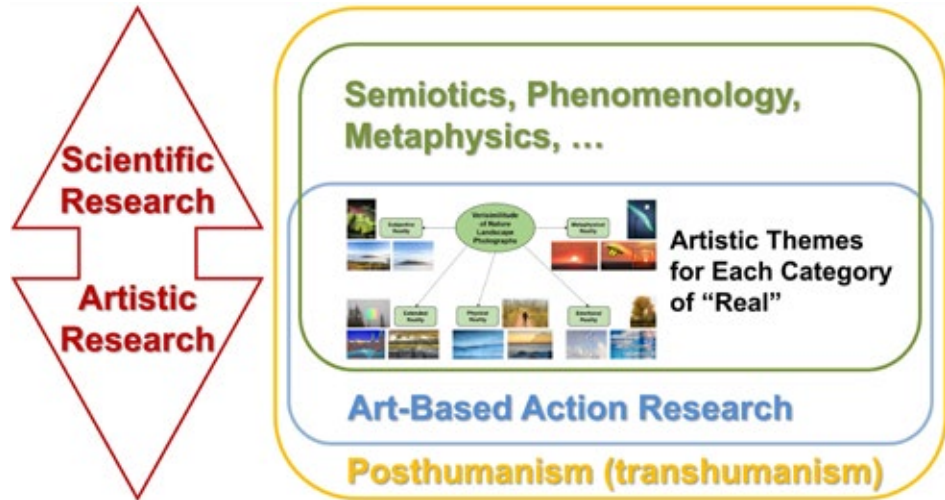
Figure 11. Proposed design for long-term research.

One goal of this research is to widen the photographic community's understanding of how the truthfulness of nature photographs can be defined in different ways and, thus, give the community tools for reflection. Another, more personal goal is for the first author to obtain inspiration and depth for his artistic work on nature landscape photography. As both authors live and work in the northern parts of Finland, this research has a Northern perspective. Within the category of emotional reality, the first author has created the concept of visual haiku, which draws ideas from Japanese written haiku and their Western interpretations. In a forthcoming publication, similarities and differences in their interpretations from the perspectives of different cultures will also be discussed.

Our proposed design for long-term research, based on art-based action research, is presented in Figure 11. The best research approaches and methodologies vary from category to category, but a central part of all the cases is artistic research, where photographs are created on the various artistic themes related to the identified categories of what is "real". These photographs are in dialogue with scientific research based on literature and other artists' work. Already, the categories of subjective, extended, and physical reality have been touched upon in one article (Isomursu, 2021), but they, as well as other categories, will be studied further in the future.

Acknowledgements

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List of photographers in Figures 5 and 6

Figure 5 from top left: Kari Vattulainen, Juhani Häggman, Harri Kiljander, Liisa Vihelä, Johanna Pihlajamaa, Tuula Välimäki, Kimmo Hurri, Miika Kinnunen, Timo Koivumäki, Sari Karhu, Markku Välitalo, Tuija Salo, Heli Nukki, Johanna Pietiläinen, Kalevi Koskela, Nina Kilpinen, Jouni Hakonen, Marja-Liisa Kivistö, Johanna Puska, Jouni Mertanen, Johanna Vaurio-Teräväinen, Christa Lundgren, Tuula Tikkanen, Henna Rajala, Tiina Hämäläinen, Matti Autio, Vesa Rönty, Petri Hakosalo, Anne Seppälä, Heikki-Veikko Lämsä, Tarja Kaltiomaa, Johanna Kiviniemi, Kari Vienonen, Pia Simonen, Jouni Haurinen, Veijo Rio.

Figure 6 from top left: Anne Keskivinkka, Vesa Pajala, Johanna Vaurio-Teräväinen, Kari Vattulainen, Tuula Välimäki, Jouni Mertanen, Johanna Puska, Kalevi Koskela, Mikko Leskelä, Tuija Salo, Tuomo Tapanila, Eetu Juujärvi, Tuula Tikkanen, Nea Nevalainen, Kimmo Hurri, Tarja Kaltiomaa, Marja-Liisa Kivistö, Arto Riekkinen, Lea Pöyhönen, Talvikki Skön, Jouni Haurinen, Pia Simonen, Risto Lammi, Miika Kinnunen, Raija Lähdesmäki, Ulla Tuomela, Lilla-Maria Haarala, Mikko Vapanen, Petri Saravuoma, Johanna Pietiläinen, Jarmo Frii, Heidi Wikström, Matti Autio, Nina Kilpinen, Eero Kukkonen, Noora Reinikainen.