The Fairy Tale of Early Twentieth-Century Hydropower Development in Norway

Theodor Kittelsen's Paintings of the Major Waterfall Rjukanfossen

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Abstract

When major waterfalls in Norway became possible to develop around 1900, a major step was achieved. The step was a major international technological leap paralleled with changes of established attitudes towards grand, and until then, useless nature. Taking the until-then-useless waterfall Rjukanfossen in Telemark into use was a convergence of grand nature, large technological installations, big business and strong emotions. Transforming this waterfall was a large undertaking and was considered to deserve artistic treatment. In 1907-1908 the Norwegian illustrator and painter Theodor Kittelsen produced a series of five watercolors of the waterfall's transformation. They were hung up at the industrial company's representational villa in Notodden. Within traditional landscape painting, water, and especially cascading water, was a standard element. However, Kittelsen's paintings introduced new versions of nature and nature use. This waterfall was totally transformed by being put into service as part of a Norwegian fairy tale. Dragons, elves, and old men in the mountain appear in the waterfall as part of the transformation. The story the paintings tell did not fit well into the context of Norwegian national romanticism, where the Telemark region throughout the nineteenth century had been associated with "the nation's inner spirit". The article will trace the production of these paintings, and the subjects depicted in them. It will analyse the nature versions the meeting between the company manager and the artist entailed. How did these paintings use Norwegian fairy tale images to depict a new version of controlled nature? The paintings did not simply thematize mastery over nature or grief over the loss of a waterfall, but a whole range of emotions like ambivalence, insecurity, envy and pride. They both confirmed and challenged the iconic status of major waterfalls in Norway.

An eager young man encounters a dragon in a dark gorge, in the form of a waterfall. This man starts measuring his strength against the dragon. He slowly transforms it, constructing a huge dam and a castle, which inevitably exhausts the horrific forces of the dragon. Thereafter, the young man lived happily ever after, looking across a lovely meadow in the sunny lowlands with factory buildings in the far distance.

This modern fairy tale appears as the subject of five aquarelle paintings portraying a groundbreaking hydro industrial project in Telemark¹, Norway, in 1907. This project entailed utilizing the major waterfall Rjukanfossen, which has been considered a famous natural spectacle since the 1700s with a staggering drop of 104 m (342 ft.). The electricity produced supplied a huge fertilizer industry. The painter Theodor Kittelsen (1857-1914) was engaged by company manager Sam Eyde (1866-1940) to produce the paintings.² The paintings were displayed in what might be called semi-private surroundings on the walls of the company's regional official residence in the town of Notodden, where developments within the hydropower industrial projects were initiated in 1903.

This article investigates how the transformation of this major waterfall into a producer of electricity was couched in the language of the fairy tale. The fairy tale genre was well suited for visualizing a hydro industrial project that was considered to be nearly impossible to do. The artistic language chosen by Kittelsen was, as will be illuminated, far from one-dimensional: it thematized ambivalence, assertiveness, insecurity, insult, envy and pride.

The aim of this article is to show how the artistic representations of energy utilization and production are situated in the social, political, and economic beliefs of the time. As the article will demonstrate, these paintings created their own effective language that contributed in valuations of a waterfall, both as uncontrollable and controllable. The notion of the sublime was a central component in the valuations and a key question is how this aesthetic value worked and to which effects. By invoking the

¹ The site was inscribed on the UNESCO World Heritage List as *Rjukan-Notodden-Industrial-Heritage-Site* in 2015.

² The company Eyde established in 1905, *Norwegian hydro-electric nitrogen ltd*, later *Norsk Hydro*, was one of Norway's largest industrial enterprises, producing fertilizer for the world market. The relationship between the sketches and final paintings in the Kittelsen series is discussed in Ole Kristian Grimnes, *Sam Eyde: den grenseløse gründer* (Oslo, Aschehoug forlag, 2001).

fairy tale and its aesthetics, the paintings were challenging the conventions of both energy extraction and landscape art.

The article first gives a short account of previous approaches to waterfalls as an artistic trope and the role of waterfalls in Norwegian folk tales. Then the article turns to short biographical accounts of the main actors in the creation of these paintings, Eyde and Kittelsen, and the paintings themselves. The source material consists of letters³ exchanged between Kittelsen and Eyde in 1907 and 1908, as well as biographies⁴ and a corporate history⁵. The final two sections address the different versions of nature that were at stake in the paintings and how they worked in this context. Also the ambiguity of the shift from sublime nature to sublime technology is illustrated.

Before 1800, Rjukanfossen and other waterfalls like it were valued as being horrible manifestations of nature – a natural, sublime spectacle. Throughout the nineteenth century government officials, tourist associations, natural scientists and artists promoted it also as a beautiful national natural treasure. Major waterfalls became popular subjects of artistic works in Norway in the eighteenth and nineteenth centuries. What these artworks, consisting of free cascading waterfalls, represent and how these paintings have developed historically has been studied extensively.⁶ For instance, Malmanger points to the artistic conventions used by painters, and to the fascination they expressed for nature in wild and vertical versions. The vertical character of the Norwegian landscape thrilled artists from Netherlands and Italy: “...our mountains and waterfalls proved to be precisely the way people in other parts of Europe expected to find them in a proper landscape painting.”⁷

Research in cultural history has shown that the powers of cascading water were often thought of as having demonic qualities.⁸ It was also common to imagine supernatural

³ All quotations from the correspondence are translated by the author.

⁴ Sam Eyde *Mitt liv og mitt livsverk*. (Oslo, 2. opplag. Eget forlag, 1956). Ole Kristian Grimnes *Sam Eyde: den grenseløse gründer* (Oslo, Aschehoug forlag, 2001). Arnhild Skre *Theodor Kittelsen - Askeladd og troll* (Oslo, Aschehoug forlag, 2015).

⁵ Kjetil Gjølme Andersen *Flaggskip i fremmed eie. Hydro 1905-1945* (Oslo, Pax Forlag A/S, 2005).

⁶ Ingebjørg Ydstie, “Thundering waterfalls and mighty cascades. The waterfall from typology to topology” and Magne Malmanger, “Levande vatn” In *Levande vatn. Fossen som natur og symbol*, ed. Malmanger (Rosendal, Norway: Baroniet Rosendal, 1999) are main contributors in Norway.

⁷ Malmanger *Levande vatn* 1999, 21.

⁸ Ørnulf Hodne *Jutulhogg og riddersprang. Sagn fra norsk natur* (Grøndahl & Søn Forlag, AS, 1990) and Ivar Lærkesen, Harald Bache-Wiig, Andreas G. Lombnæs (eds.) *Naturhistorier. Naturoppfatning*,

beings dwelling in waterfalls, swamps, lakes and mountains. Kittelsen portrayed these dangerous beings in the commissioned series, in addition to more ambiguous goblins and mountains, which were also familiar from Norwegian folk tales. “The traditional opposition between culture and wild nature, between cultivated and uncultivated land,”⁹ figures strongly in the folk tales. The waterfall Rjukanfossen was definitely positioned within what was considered to be wild nature and it was thought of as being a part of nature that was impossible to control. The wild aspects of uncultivated nature were interpreted as being a threat to an ordered society. Such dualisms and tensions are very much at play in Kittelsen’s series.

Waterfalls have been popular motifs as both horrible, beautiful and sublime. The “sublime” stands for experiences and occurrences that evoke strong sensations and incomprehensibility. As Edmund Burke expresses it: “Whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime; that is, it is productive of the strongest emotion which the mind is capable of feeling.”¹⁰ The experience of something consisting of huge dimensions and devastating forces, such as a major waterfall, is typical of a sublime experience. Sensations are evoked not only by elements in nature but also by controlling nature and experiencing large technological structures, which in this case relate to structures related to the hydropower industry.

From the early nineteenth century onwards the Norwegian water landscape was restricted to minor installations along rivers and cascades, utilizing only parts of the river. In the first decade of the twentieth century and onwards the waterfalls with great fall heights were possible to utilize and these hydropower plants had very large capacities. The machineries both producing and consuming the huge amounts of electricity were considered to be marvels. Rjukanfossen was the first Norwegian major waterfall to be utilized in its entirety. It was transformed into a new version of nature, one that was controlled and that made a very concrete contribution to modern Norway, and the visions surrounding modern Norway.

menneskesyn og poetikk i skandinavisk litteratur (Landslaget for norskundervisning, Bok nr. 128 I LNUs skriftserie, Cappelen Akademisk Forlag, 1999), 14.

⁹ Lærkesen et al *Naturhistorier*, 33.

¹⁰ Edmund Burke *On the Sublime and Beautiful*, The Harvard Classics 1909-1914, online version, 2016.

The Kittelsen painting series is the first artistic work depicting a major waterfall to be totally redirected from its original course, and the first work of art about the topic of large-scale hydropower and chemical industry. The paintings dealt with a period of time considered to be the second industrial revolution of Norway. Depicting the total transformation of a major and, in Norway, iconic, waterfall meant departing from artistic conventions. The paintings of Kittelsen portray a major encroachment on the waterfall and river in a peculiar way. The style, thematic content and the message were not common within the traditional Norwegian landscape genre, where major waterfalls flourished but were definitely not tainted by huge constructions around them. In other words, waterfalls were “free” and represented “authentic nature”. These paintings could be seen as disrupting these conventions since they did not fit into the artistic conventions of landscape painting, where the human element, if included, was restricted to interventions such as saw mills, bridges or timber floating.

What are these paintings doing? Like all paintings, they are more than just plain illustrations. As Fyfe and Law argue, “A depiction is never just an illustration ... To understand a visualisation is to inquire into its provenance and into the social work that it does.”¹¹ The cultural geographer Daniels has put artistic productions of industrial scenes in Britain and the United States from the first industrial revolution in the wider context of national identity and historical narration.¹² From the eighteenth century onwards, many rural landscapes gained the status of being national icons in England. Many industrialists in the early phase of industrialization in England had their works, such as ironworks and textile industries, depicted as a kind of estate portrayal. Industrial landscapes were artistically treated and included in different visions of what the English landscape was and they took part in shaping them. Daniels sees paintings as expressions of many types of values and thus as something much more fluent than a fixed motif. This analysis of the Kittelsen series draws upon these insights to show how aesthetic representations of landscapes related to the production of energy are embedded in social, political, and economic views, including the reliance on literary conventions (in this case the fairy tale genre).

¹¹ Gordon Fyfe and John Law (eds): *Picturing Power. Visual depiction and social relations*. Sociological Review Monograph 35. (Routledge, London and New York, 1988), 1.

¹² Stephen Daniels *Fields of Vision. Landscape imagery & national identity in England & the United States* (Polity Press, Cambridge, 1993).

THE LOCALITY, THEODOR KITTELTSEN AND SAM EYDE

The agreement for producing the paintings was not a customary one between a client and a contractor. Rather, it was a negotiation between different versions of nature: the waterfall of an industrial developer and that of an artist. One might think of them as being oppositional to one another, but they had several traits in common. These traits are difficult to illuminate without a closer analysis of the context and the versions of nature at stake.

Crucial to the process was how this particular waterfall, and the encroachment on it, was to be depicted. The overwhelming impression left not only by the thundering waterfall, but also by the monumental powerhouse, and the sheer dimensions of the construction of the dam can be readily related to notions of the sublime, to the idea of something as being inconceivable, mystical and impossible. In the paintings *both* sublime nature *and* sublime technology were expressed.

Rjukanfossen was the uppermost, highest and most famous waterfall in the Skien watershed. It was located at a high altitude, and it took an effort to reach it. Before the railway arrived in the 1870s, one had to count on using two days to reach Rjukanfossen from the capital Kristiania.

The Skien watershed had been regulated for hundreds of years for timber floating and saw mills, hence it served the timber industry. From the 1890s and on, Rjukanfossen became increasingly valued for its potentially very large energy capacities.¹³ In 1903, the construction of a dam and reservoir at Møsvatn for the purpose of facilitating downstream users, amongst them the Tinfos (1901) and Svelgfos (1906) power plants, started. In 1905, the company founded by Eyde, Norwegian Hydro-Electric Nitrogen Ltd,¹⁴ completed the first hydropower-based industrial project in the town of Notodden. Notodden was a test-site for a similar, but much larger project to come in the upstream valley of Vestfjorddalen, where the large power plant Vemork

¹³ Rjukanfossen was the most powerful waterfall in this watershed, considered to equal 220,000 hp. The downstream waterfall Svælgfos equalled 30,000 hp. When developed in the first decade of the twentieth century these were Norwegian energy production records. In comparison internationally, Niagara Falls was estimated to produce around 6,000,000 hp around 1890.

¹⁴ The company was established the same year. It was at that time Norway's largest energy-intensive industrial company, and it "stood out as a powerful expression of the newly won independence of the nation" (Andersen 2005:12). In 1905 the Union between Sweden and Norway had ended peacefully.

was completed in 1911. Before this, larger rivers and major waterfalls had not been totally cut off.¹⁵

The engineer and manager Sam Eyde (1866-1940) was born into a wealthy family in the town Arendal in southern Norway. Together with Swedish financiers and Norwegian engineers, Eyde established the company A/S Rjukanfos¹⁶ in 1903. They had managed to acquire the rights to waterfalls and to purchase nearby properties. This was the start of the total transformation of the Vestfjorddalen valley from a minor rural community into the modern industrial town of Rjukan.

The popular artist Theodor Kittelsen, (1857-1914) grew up in relatively straitened circumstances in the small town Kragerø in southern Norway. He was the main illustrator for many years for the later editions of the famous *Norwegian Folktales* by Asbjørnsen & Moe. The folk tales, published from the 1840s and onwards, had become highly popular due to the nationwide patriotic atmosphere in Norway at the time, an atmosphere that rose in the struggle for independence from Denmark. This created great attention towards the “Norwegianness” of language and lifestyles. Since then and until today they have been the folk tales for all young generations of children in Norway.

PRODUCING THE “FAIRY TALE OF THE WATERFALL”

In 1907, the idea of producing paintings was put forward by one of Kittelsen’s supporters, the lawyer and writer Vilhelm Dybwad (1863-1950). Vilhelm Dybwad had an extensive network and was very enthusiastic about the idea. However, he was also aware of Kittelsen’s difficult financial situation. Kittelsen’s wife actually wrote to Dybwad and mentioned emigrating from Norway as a last resort to solve this. She characterized her husband as “...too original and talented and not snobbish and bootlicker enough to gain ground in this country.”¹⁷

Dybwad managed to arrange a meeting with Sam Eyde. He suggested that Eyde commission a work from Kittelsen, who could “... paint your whole struggle with the

¹⁵ Not only was use of this type of waterfall a technological breakthrough around 1890 to 1900, but the extraordinary dimensions and character of the transformation at the sites were profound. In about ten years the remote rural Vestfjorddalen valley turned into an industrial town with more modern facilities than the capital at that time.

¹⁶ This was the forerunner of the company Norwegian Hydro-Electric Nitrogen Ltd.

¹⁷ Skre *Theodor Kittelsen*, 392.

waterfall and mountain and all the natural forces up there.”¹⁸ Eyde liked the idea and this again led to Dybwad envisioning “the Sam Eyde adventure” and suggesting to Kittelsen that he paint it.¹⁹

In a letter dated July 19th, 1907, Kittelsen wrote to Dybwad:

... the “soul” of Mr Eyde’s work I think could catch, to the great pleasure of him as well as his engineers. ... Just imagine four big wall sections in an office - the fantastic spirit of air and water power! 1. The nixie in the middle of the waterfall mist, 2. The chained water troll in the middle of the gushing waterfall, 3. The previously mentioned image of air, 4. A flowering meadow ... No dry preaching – but the adventure in nature. The soul of it all! I would dearly suggest something like this to Eyde?

In Kittelsen’s eyes both the technology and the waterfall were enchanting and both invoked the sublime. His goal was to make everything evoke deep sensations. By this time Eyde was very busy in the early phases of developing huge hydropower installations along the watershed from upper to lower Telemark. Eyde became very enthusiastic about this idea and Kittelsen started working. Kittelsen visited Notodden and the construction site at Svelgfos in order to get an impression of the mighty machinery under construction. Kittelsen also received photographs of Rjukanfossen and the initial works at Svelgfos from Eyde as a foundation for his work.

Eyde and Kittelsen seemed to have found a peculiar balance between them in spite of their obviously different positions. They both seemed to share a feeling of not being appreciated by the establishment: Eyde by the financial and political elite and Kittelsen by the cultural and artistic elite. In a letter to Eyde on September 24th, 1907, Kittelsen maintained a very enthusiastic tone: “Notodden is unique – magnificent! ... For once I could do something that does not equal anything else in Norway. Neither in the Royal Palace nor in the Haakonshal.”²⁰

On October 5th, 1907, Kittelsen sent five sketches to Eyde. For one of them he commented: “I have been thinking about the chained dragon ... Also here the mountain faces express their old compassion: If they here only had Government funding to take back, they would certainly do so.”

¹⁸ *ibid.*

¹⁹ Grimnes, *Sam Eyde*, I.

²⁰ Haakon’s Hall is a 750-year-old royal residence and feasting hall in Bergen. Bergen was the capital of Norway in the 1200s. The hall is an important Norwegian cultural monument from this period.

Here, Kittelsen gave the mountain a role as a public official guarding nature and being reluctant towards the construction taking place. The “compassion” is presumably indicating that the mountain cannot help but look at the event – that nature is helpless and will be put under control. Nature is given human characteristics and is portrayed as being highly communicative. The solid mountain rock stands for the solidity of Norway, or maybe a solid Norwegian government? The funding refers to the fact that Eyde had proposed that his company would get a state guaranteed loan of NOK 18 million to start the works at Rjukan. However, the processing of it was slow and meanwhile Eyde managed to arrange financial support from abroad instead.²¹ Maybe this was his way of getting back at the state authorities?

On October 29th, 1907, Eyde received more elaborated sketches and Kittelsen wrote: “I really think we should maintain the grandeur and mightiness both when it comes to the nature up there and to the works. We need to keep the waterfall as a huge dragon and not as any small force ... nature as gigantic next to the effective goblins down in the gorge ... The magic castle is built. I want the powerhouse to be like a sparkling fairy tale castle ... Everything shall be huge and simple, no minor ‘quibbles’ ... or confusing trivialities.”

The grandiosity and the adventurousness of *both* the nature and the construction works by Kittelsen are here again characterized in sublime terms. Everything had to surpass everyday trivialities. All facets are given the characteristics of an adventure like in old Norwegian folk tales, tales that Kittelsen had expert knowledge about. He highlighted the references to Norwegian folk tales furthermore in a letter dated November 24th, 1907: “You really have done marvelous work up there, - like a fairy tale, and also I can rightly portray it all as a fairy tale. It is the new against the old, the Ash Lad, a lucky guy lifting the old rusty troll sword”.

Attitudes towards “wild nature in the genre of cheerful fairy tales is where a hero consults the world of the trolls, and where he by imagination and resourcefulness overcomes all evil powers and finally returns to the civilization as triumphant.”²² Eyde here was the Ash Lad measuring his strength against the forces of nature. The “Ash Lad” is an archetypical figure in Norwegian folk tales. As a rule, he is the

²¹ Andersen *Flaggskip i fremmed eie*, 88-91.

²² Lærkesen et al *Naturhistorier*, 13.

youngest and most despised of his father's sons, seemingly stupid and slow, always waiting for a right opportunity to come. Eyde was assigned the role of the innovator, an eager and future-oriented busybody, while the establishment in the capital had the role of a slow, conservative and envious crowd.

Kittelsen's capacity to grasp the fantastic, especially the unbelievable, such as in fairy tales, went hand in hand with Eyde's hydro engineering and industrial enterprise, considered at that time to be almost unbelievable. Eyde and Kittelsen both pushed the limits of the possible, though from quite different points of view. Many had considered the harnessing of this major waterfall to be verging on the impossible. So, to tame and utilize the forces of this waterfall finally was considered to be an incredible accomplishment. In addition, depicting such an intervention of the river challenged artistic conventions.

The first painting *The Waterfall* portrays Rjukanfossen in the form of a free and unbound ghastly dragon with all of its powers intact, in this remote and dark part of Telemark. An Ash Lad is told by a fairy how to tame the dragon. Eyde requested that the Lad should be painted with a slightly slim figure, leaning forward in a posture of fearlessness. Eyde also suggested including a whole family on the move immigrating to America. This would point to the fact that the times were so hard that people had to leave the country – a problem Eyde and his projects could counteract in the form of new employment possibilities in the region. This was to underscore that Eyde was an innovative man working hard to improve conditions in Norway. He would take control over this ghastly creature (the dragon) and emerge as a savior in a hopeless and dark situation.

Figure 1. The waterfall Rjukanfossen as the Dragon. “Fossen” (1907) TH. Kittelsen. Svælgfoss-serien, Telemarksgalleriet. Photo: Norsk Industriarbeidermuseum.

The two following paintings *The Dam at Lake Kloumann* and *Excavation Work* thematize the major construction works in the riverbed. A whole bunch of goblins are working on the large linear dam construction cutting across the river. The mountain Gaustatoppen in the background (by which Kittelsen meant to symbolize the Norwegian Parliament) indicates that the Norwegian Parliament is wondering, “What

on earth is going on there in Telemark”? A distressed nixie is sitting in the waterfall mist and the faces of the cliffs express wickedness. The rainbow, as if to bring calm to the entire scene, could possibly be expressing that this project, despite the representation of nature being troubled, is promising.

Figure 2. Working force at the dam. “Dammen på Kloumannsjøen” (1908) TH. Kittelsen. Svælgfoss-serien, Telemarksgalleriet. Photo: Norsk Industrierbeidermuseum.

The *Excavation Work* depicts a workforce far down in an icy, dark gorge as goblins excavate and blaste the ground to prepare for the hydropower station at Svelgfos. Eyde requested that Kittelsen include flames and a chemical apparatus in order to illuminate the goal of it all: to establish a productive chemical industry based on the electric arc method. Chemical operations were of course not performed in dark gorges but in a much more controlled, indoor environment. However, including an invention of a major method fit well in this setting. The chemical operations expressed a scientific innovation in an enchanted way.

Figure 3. Goblins excavating and experimenting in the gorge. "Grunnarbeide" (1907) TH. Kittelsen. Svælgfoss-serien, Telemarksgalleriet. Photo: Norsk Industrierbeidermuseum.

In one of his letters, Kittelsen described these two paintings as depicting "excellent, picturesque" situations and "brilliant topics". There was a peculiar resonance between an actual workforce and the fictional goblins working in a deep, dark gorge. They were inconceivable, dream-like and enchanting in character. Could we call the

painting a kind of re-enchantment where new methods were also portrayed in the language of folk tales?

The fourth painting *Svælgfos* (initially named *The Bound Dragon*) depicts an already built hydropower station resembling a castle in the darkness of night. Kittelsen wrote: “I want the power station to be like a sparkling fairy tale castle – with sparkling lights from all the windows”. The dragon is here bound and has been dragged through the power station’s tunnels and turbines, exhaustingly rumbling downstream afterwards. The faces of the cliffs express misery and envy. Here again we can sense that this particular form of nature has been defeated. In other words, Eyde was in control.

Figure 4. The castle in the gorge. "Svælgfos" (1907) TH. Kittelsen. Svælgfoss-serien, Telemarksgalleriet. Photo: Norsk Industriarbeidermuseum.

The final painting, *Notodden*, whose working titles were *Fertility* and *Growth of the Soil*, portrays the town of Notodden with factories. Everything is set in harmonious sunlight with an elf flying over a vast fertile field. The field is very likely thought of as treated by the fertilizer Eyde's industry was producing. Kittelsen wrote this about the field section: "Not people harvesting, harvesters etc. – such things would only

confuse things. The fairy tale and the feeling of happiness would disappear”. Here, are we able to sense a vision where everything in the end would free people from hard work in the fields? One plausible interpretation here is that people working in the fields would disturb the scene, a scene where the landscape is supposed to be pleasant and smooth. And, lastly, the landscape is peaceful and harmonious as a result of controlling a roaring waterfall upstream in an unpleasant part of upper Telemark. This shows beauty as being against sublimity in nature, where controlling and ordering this form of nature conditioned beauty.

Figure 5. Harmony – Growth of the soil. “Markens grøde” (1907) TH. Kittelsen. Svælgfoss-serien, Telemarksgalleriet. Photo: Norsk Industriarbeidermuseum.

On May 4th, 1908, Kittelsen had completed the five aquarelles, and wrote to Eyde: “I am now sending you the The Waterfall’s Fairy Tale ... I pray to God that the Fairy Tale will shine brightly far beyond the nasty envy. Faithfully and sincerely yours, Theodor Kittelsen.”

Kittelsen ended the letter in a hopeful tone expressing that the brilliant and promising works of Eyde would over time certainly overcome the prevailing jealousy that was considered to haunt Eyde. Eyde responded on July 4th, 1908 that he was pleased and wanted to invite both Kittelsen and his wife, along with Dybwad, as the paintings were framed and hung up on walls. In his autobiography Eyde commented on his low repute among Norwegian politicians:

I will never forget our incomparable fairy tale illustrator Th. Kittelsen who came to me while the controversy over the waterfallgifts and concession laws were at their strongest. He had visited the Svelgfoss facilities and admired the works greatly, but at the same time he snorted in indignation at the tepidness of the Members of Parliament and at some newspapers hateful attacks on me. ... I never got a more beautiful and funny tribute to my work.²³

The year 1907 was a demanding one for Eyde. The Norwegian government introduced new concession laws and his projects were in danger of being stopped. He met great political difficulties and had received bad publicity. Foreigners' investments in Norwegian waterfalls and other natural resources was met with ever more skepticism and reluctance. The government wished to gain more control and introduced a new law in April 1906, where it could set conditions for the harnessing of all waterfalls equaling more than 3,000 hp. "Waterfallgifts"²⁴ was a sarcastic term used in the media to refer to an agreement with the State that Eyde had proposed in May 1906, in which the Norwegian government would take over the plants, infrastructure and waterfalls after eighty years. In return, the government would loan Eyde's company NOK 18 million, not add taxes to the power his companies produced and ensure that the new law would not have a retroactive effect.²⁵ It turned out that the law was not retroactive and that Eyde did not need that loan. He had arranged to get enough capital from his German network of contacts. The reversion to state ownership was implemented in conjunction with the concession laws of 1909.

Financial and technical arrangements of these proportions were unproven in the early twentieth century. It is fair to believe that as Eyde faced all these challenges, Kittelsen and these paintings were a bright spot in Eyde's life. Presumably, collaborating with

²³ Eyde *Mitt Liv*, 295-296.

²⁴ This section is briefly summarized from Andersen *Flaggskip i fremmed eie*, 88-92.

²⁵ Eyde and his company had acquired rights to Rjukanfossen in 1903, so this new law did not apply to the control over this waterfall.

an artist and the paintings themselves had both a refreshing and comforting effect on Eyde in addition to keeping his self-esteem up, which was at a high level.

Both Kittelsen and Eyde had “the adventure” in the palm of their hands. In the sense of “mastering the impossible”, Kittelsen and Eyde became a perfect match by that time. Kittelsen was well established and a popular illustrator depicting Eyde’s contribution to the modernization of Norway. In addition, he did not seem to have have a negative attitude towards Eyde’s innovative, and, for many, incredible, industrial enterprises. Eyde’s work was groundbreaking; it pushed the limits of political, economic and technological conventions of a river intervention and of industrial enterprises.

The end of the story concerning the fertile fields in splendid sunshine subtly closed the circle: the effect of taming this dragon and of carrying out all this work did not challenge or destroy a traditional agricultural landscape. They became even more fertile — farming prospered because of these innovations where a fertilizer industry favored food production. The pioneering work was presented in journals: “Thanks to the powers of waterfalls, ‘the white coal’, two Norwegian scientists have also solved the economic aspects of the great problem of making lands fertile via the elements of air; the plants’, the animals’ and humans’ needs for nitrogen is forever secured ... there are no more obstacles for the progress of increasing agricultural production.”²⁶ Here we can sense the positive spirit of water as a bright and agreeable energy source versus coal as being a dark and gloomy one. This again positioned Norway as being blessed with a pleasant source of energy for years to come.

EMBEDDED VERSIONS OF NATURE IN A PAINTING

The Kittelsen series could in general be analyzed as a humorous illustration of control over nature, and simply as a funny visual version of the modernization of Norway commissioned by an entrepreneur in need of making his mark. In its day the river intervention was drastic.²⁷ However, river regulations and a factory as such were not

²⁶ Section from the journal *Danish Agronomical Revue* dated January 6th 1906 in Eyde archives, National Library of Norway (translated from originally French, by L. Grandeau).

²⁷ Around 1900 the harnessing of the Rjukanfossen waterfall was not heavily debated. The issue heavily debated was the foreign financing of the enterprise, which led to what was called the “panic law” in 1906.

totally new – the new aspects were the dimensions of the industry and power plant and the fact that an entire waterfall was redirected from its gorge. Indeed, the dimensions were at stake in all respects, from the costs, the local constructions, the wider infrastructure, the industry, and the starting point of it all – the Rjukanfossen waterfall. And, as a consequence, this applied also to the amounts of electricity used as input and the quantities of chemical fertilizer produced as output.

The series of paintings presented many different versions of nature. Going into more detail about them can provide a more nuanced picture. The story starts by taming large amounts of water originating from the gloomy, mountainous and wild Telemark hinterlands. It continues on with various construction works transforming the wild forces into a harmonious version of nature in the glorious and pastoral lowlands of Telemark. This intervention into dark, threatening nature, and the outcome of it, was loaded with optimism and resulted in nature that was improved in the form of cultivated farmland.

It is the nature of the folk tale where there are two separate worlds: uncultivated versus cultivated nature. The uncultivated world is threatening and uncontrollable while the cultivated one is ordered and controlled. The waterfall, portrayed as the dragon, points at a horrible and violent nature that can overwhelm a relatively small human being, that is everyone but this lucky Lad who was Eyde himself. He overcomes everything and reigns over the river, the gorge, the industry and the meadows. He owns a kingdom and can secure farmers (people) enough crops (food) for years to come.

An actual transformation of a waterfall of these dimensions had not been seen before. People were amazed and it is no wonder that a fairy tale context put around it was easy for them to grasp. The water spirits were mourning and wailing about the changes to come. The goblin, nixie, castle and Lad were not just recognizable figures, but they also contributed to maintain the magic of the immense, or fantastic, powers of this waterfall, *both* as untouched *and* as harnessed. In this way, too, the work in the gorge, the dam and the powerhouse took on magical qualities.

We can, however, also take in the nature of landscape art. A quite common way to portray landscapes, at least when following the conventions of mid nineteenth-century

Romanticism, and as illuminated in the Rjukanfossen painting, was to place an individual in a contemplative position facing and gazing at a wonder of nature of huge dimensions, be it mountain peaks, oceans or a waterfall. It created a dramatic effect, where the waterfall was something bewildering and wondrous. It also portrayed an individual as not being overwhelmed or intimidated by these forces – an individual on his way to mastering this form of nature.

We also find nature in the form of an energy system, a primal force that is converted into electricity. This version of nature is, as a rule, related to the domain of engineering, a domain within which nature is perceived as being imperfect and even chaotic and where the refinement and improvement of nature is the goal. This particular waterfall was considered by most until the 1890s to be a useless part of the river. As soon as it was brought into an industrial context the waterfall was turned into being a tremendously useful form of nature and came to be a lot more beneficial than other parts of the river up until then. From then on, the waterfall was transformed into a controlled form of nature that was directed into the production of electricity. This again can be looked at as nature seen by an investor, where the powers of a waterfall are placed within a larger industrial context and reduced (or refined) to being an input in the processes of facilitating production and getting items ready for a market.

A less obvious version of nature we also can observe is nature as portrayed within the context of public authorities. The references to the Parliament and the concession laws point out that this waterfall, in terms of huge amounts of electricity, should also be considered as public property in the sense that Eyde and his company possessed this part of the river temporarily only through a kind of loan, and that the government had a different perspective of time in this matter and had more “noble” aims than producing items for a market and making a profit. We can refer to this as nature within the context of the nation, where the means to retain a major waterfall’s capacities, including the time-limited use of it, became political issues from these developments onwards.

These versions of nature were all embedded in different valuation regimes with different aims and also correspondingly various aesthetic valuations. The next section

will investigate which effects the “fantastic” and “unbelievable” had in the context of this fairy tale.

THE FAIRY TALE AS A DISRUPTIVE YET REASSURING VERSION OF NATURE

This developmental project was of enormous dimensions. The sheer magnitude of the waterfall, its energy potential, the scale and range of the technology necessary to make use of it, invited the use of adjectives like “fantastic”, and “unbelievable” to describe it. The buildings and installations elicited strong emotions and challenged not only the idea of the waterfall as a sublime primal force, they also transcended aesthetic valuations that hitherto had been considered to belong either to the domain of moderate interventions or to “authentic” nature. A new notion of the sublime emerged, where large-scale man-made structures took over the role of evoking the sublime.

In this context, the aspect of incomprehensibility is a central one since both the waterfall and the man-made structures for utilizing it were thought of as being “beyond description”. They were both portrayed in terms of the fairy tale as something inconceivable or unbelievable. Kittelsen grasped both the sublime aspects of nature and the sublime ones of technology and the trait common to them was their incomprehensibility.

Many landscape painters had depicted the floating of timber, saw mills etc. where waterfalls and rapids were utilized. However, these paintings told stories about minor, small-scale installations such as where handicrafts were produced, that could be grasped by the mind. It was a matter of controlling some parts of the forces in rapids or waterfalls, but it was far from controlling all of the forces. In this particular case, control was, however, not valued as anything comfortable, but as all the more sublime.

The paintings would not have fit into the genre of conventional landscape painting at the time. They would have been a disruption within the National Romantic genre, where nature preferably appeared to be authentic and at least virtually untouched, and definitely without fairies, trolls and dragons present. It would have been inappropriate

to include the harnessing of a major and iconic waterfall in the domain of landscape art. In this genre the mixture of electricity, factories and folk tales had no place.

A large hydropower plant, huge factories and workforces were uncommon motifs in landscape art where nature was portrayed as being pleasant, dramatic or sublime yet preferably untouched and not disturbed by the presence of industrial workers and factories. A modern chemical factory stood especially in sharp contrast to the environment of upper Telemark, where the landscape had been valued as being genuinely Norwegian. Throughout the nineteenth and twentieth centuries, upper Telemark had been considered “... a region where the roots leading back to pre-modern Norway were still alive and well.”²⁸

A modern factory disrupted the established conceptions of this particular version of the Norwegian landscape. And indeed, Kittelsen minimized the size of the factory building in the last picture. However, he kept the powerhouse (castle) and the dam within a type of fantasy domain, which consisted of nature being transformed into glorious structures. The associations to utilizing the forces of water in general were more agreeable since such forces in the region had been in use mechanically in mills and the forestry industry for many decades. In other words, they were put to use towards already common, and more acceptable, conversions of water forces as energy input.

To a small degree, artists had been involved in depicting huge technical innovation work. This was also what might have triggered Kittelsen to contribute with something exceptional, something on the brink of being possible – and also to challenge conventions in the landscape art genre. Both Eyde and Kittelsen were each pushing their own limits, and were in tune with one another in that respect.

These paintings did not have disrupting effect at the time since they were neither artistically assessed nor publicly displayed. The paintings hung on private walls that only a few people had access to. So, which roles did they play in such restricted premises?

²⁸ Øivind Storm Bjerke *Tun og vassdrag. Telemarks typologier. Farm and waterway. Telemark typologies.* (Kunstnerne Hus, Telemark Fylkesgalleri. Oslo, Kunstnerne Hus. Katalog 566, 1998), 55.

First of all, a modern industrial project was placed in the context of familiar and popular Norwegian folk tales, within a version of mythical nature. The locations were gloomy, pleasant, agreeable and glorious. All installations were flavored with the language of mythical creatures that were firmly embedded in Norwegian traditions. Kittelsen hoped that the paintings would please Eyde and his engineers. Eyde wrote about the official regional residence “Admini” in Notodden: “When we met hardship and hints of pessimism, I often gathered my associates here in a small party, and I found it unbelievable how mutual companionship and trust can provide new hope and new strength.”²⁹ The house, including the paintings on the walls, might have functioned as a kind of “safe harbor” when the company met resistance and criticism. At gatherings it is reasonable to assume that these paintings were noticed and commented upon. They probably had a reassuring effect on Eyde and his fellow engineers and investors.

The fairy tale genre offered confirmation and reassurance since it situated these modern, large river interventions in “...what we have been taught to look for ... and feel.”³⁰ It situated the large, modern hydro industrial projects in a familiar context, in a kind of Norwegian comfort zone, where nothing very foreign or controversial (frightening, but only playfully so) took place.

What happens when interpreting the series by Kittelsen as being visionary and as a type of estate portrayal? Eyde and his company ruled over the river, or, more exactly, over most of its horsepower, and the necessary properties along the river. In that light, the series could be called an estate portrayal. The upper part, with its reservoirs, dams and transformed waterfalls, were depicted as being raw material and the factories producing fertilizer were the company’s sources of wealth. The series of paintings stand for power and possession in all respects. Even the location of them, on the walls in the waiting room outside Eyde’s office, was worthy of a king. In this light, during the years 1908-1917 Eyde could have been regarded as the King of Telemark.

The realities and the depictions of them corresponded with each other. Both quite specific elements from popular Norwegian folk tales and the concrete elements in the

²⁹ Eyde *Mitt liv*, 258.

³⁰ Marjorie Hope Nicolson *Mountain gloom and mountain glory: the development of the aesthetics of the infinite* (Cornell University Press) 1959, 1.

hydro industrial developments contained aspects of the fantastic, the incredible and the extraordinary. Both Eyde and Kittelsen dealt with nature as being uncontrollable. Eyde dealt with a waterfall thought of as impossible to utilize and Kittelsen with the untamed, horrible and mythical aspects of nature. In a peculiar way, both the hydro industrial project and the paintings pushed limits.

It all started with the characteristics of fear and insecurity in a chaotic version of nature and ended with pride and comfort in a controlled version of it. Here we might expect to encounter tension between traditional agriculture and the modern chemical industry. However, this tension seemingly dissolves perhaps since the end product and the whole aim of the undertaking favored agriculture – what one usually thinks of as representing cultivation in the form of ever more fertile fields.

This particular case has investigated the forces of water, entailing both mature technology and accompanying firmly established aesthetic values. Other forms of energy extraction, such as, for example, coalfields or offshore oil platforms, could offer a completely different, and very interesting, picture.

When it comes to energy and aesthetic valuations this story can tell us that aesthetic values, be they beautiful, sublime or ugly, are far from confined to traditional or agreeable uses of nature. Such values are embedded in all practices, in contexts of both modern and traditional energy production and consumption, and they encompass both discomfort and comfort. Even more generally, that depictions take place in a social, economic and political context. Artistic work is many-sided and depictions can push limits in many directions. They should not be limited to notions of comfort and beauty. They have the potential of challenging both energy regimes and artistic conventions.

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