

Anglo-Norse Review



ARVID STORSVEEN

FØDT 9. JULI 1915

OG OPPVOKST I ULLEVAL HAGEBY.
SKAPTE OG BYGGET UT DEN
LANDSOMFATTENDE MILITÆRE
ETTERRETNINGSORGANISASJON XU
LEDET DEN 1940-1942 FRA SITT HJEM
JOHN COLLETTS ALLE 16 1942-1943
FRA STOCKHOLM OG LONDON.
SKUTT AV GESTAPO UNDER
OPPDRAG I OSLO 27. APRIL 1943.



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NORSK-BRITISK FORENING-OSLO

Hon. President: H.E. The British Ambassador.

Chairman: Michael Brooks

Editor: Marie Wells

Oslo contact: Elisabeth Solem

marie.wells@btinternet.com

elisabeth.solem@gmail.com

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Front cover: Memorial to Arvid Storsveen, Arvid Storsveens Plass
at the corner of Hasselhaugveien and Prestegårdsveien, Blindern,
Oslo. Photo Kari Anne Rand

Editorial

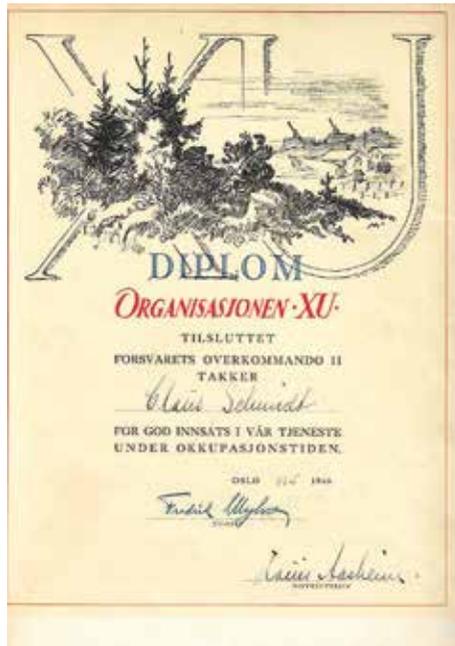
First and most important, I hope that all our members, their families and loved ones are well, and have avoided, or survived Covid-19.

Fortunately the *Review* has not been affected by the virus and comes to you at its regular time with, I think, some very interesting articles. As you see, new material about the war continues to surface and I for one did not know about XU till recently as explained below.

In the light of all the uncertainty caused by the Covid Pandemic, the Council has decided to postpone all the events planned for the autumn except the Carol Service at the Norwegian Church, about which we shall consult the church nearer the time. Instead we propose to issue an extra edition of the *Review* in October. In this connection, please read the article entitled 'How I come to be living in the UK/Norway' and consider sending in that bit of family history as it could be a valuable contribution to the extra issue.

XU: Norway's Secret Service in WWII

By Sir Richard Dales



Ed. This article comes about as a result of a recent visit to Oslo when I stayed with Prof. Tom Schmidt (author of the article on 'The Spelling of Norwegian Place Names in the Winter 2019 issue of the Review). We must have been talking about the war and he thought I might be interested in seeing the Diploma that had been given to his father, Claus Schmidt, for his contribution to XU during the war. Tom had known nothing of this till he found the document when going through his father's papers after his death in 1990. There were other similar certificates. Tom's father had spoken very little about the war. He had trained as a hotel manager, and in the latter part of the occupation was working

in the reception of Hotel Continental in Oslo, half of which had been taken over by the Nazis, so he was in a good position to eavesdrop. One of the few stories he did pass on to his children was that on the evening of 7 May 1945 a man in plus fours entered the hotel and shot a German officer standing at the reception counter. Tom's father got a visitor to the hotel to help him drag the body into the ladies toilet. He then rang 'someone' who came and fetched it from the rear of the hotel. That was all Claus's children knew. When Tom found the Diploma he obviously realized how his father knew who to ring!

Most British and Norwegians know about the Norwegian resistance to the Nazi occupation in WWII, about SOE (Special Operations Executive) operations, such as the attack on the Vemørk heavy water plant, and about Milorg's sabotage activities. In contrast very few have ever heard of XU, a domestic intelligence organisation set up within weeks of the occupation. This is probably because the vow of silence imposed on its agents was not lifted until 1988. Even then, many of those involved kept silent, not concerned that their vital wartime role received little recognition. The organisation lived up to its English title: X =the unknown, U=undercover.

XU was one of several domestic secret organisations resisting the German occupation, but it was probably the most effective. It was started by Arvid Storsveen, a part-time engineer officer who had led a unit of the Norwegian army trying to slow the German advance in April, 1940. After the Norwegian surrender, he escaped via Sweden to London. With the blessing of the Norwegian authorities there, he returned to Norway with his unit's second-in-command and began to recruit others, beginning with a military intelligence officer, who became XU's first head. They took advice from a retired Norwegian coffee planter who had set up an intelligence organisation in Java on behalf of the British in WWI. This had been called XU. Hence its English name. The Norwegian XU took its orders from the Norwegian Defence Command Office in London (FO2), via the Military Office in Stockholm (Mi2) but it insisted on remaining a civilian organisation. To begin with they were linked with Milorg and recruited from all walks of life, including students, but in 1941 it was agreed to break the link and concentrate on men and women whose position in the Norwegian administration gave them access to information useful to the Allies. It was important for everybody's security that individual XU members should know as little as possible about their organisation and their fellow agents. Indeed they would

mostly know only the cover name of their particular “handler” or the courier to whom they passed information. For similar reasons, agents could not be members of other resistance organisations. This limited the damage to the organisation which might result from interrogation by the Gestapo. (It is a measure of the success of this policy that even though by the end of the war, the Gestapo knew a lot about the organisation, they had insufficient information on XU’s agents to roll it up).

At its peak XU had some 1500 agents, many of whom had jobs in key parts of the government administration all over Norway, such as the police, railways, highways, harbour authorities, Post /Telephone Office, Met Office and even the National Registry. They even infiltrated Quisling’s inner circle in the National Samling and had contacts in the Wehrmacht, the prisons, the Norwegian Stapo and even at times in the Gestapo itself. These officials had to lead a particularly hard double life, being despised by their compatriots for working for the Occupation Administration while having to avoid the suspicions of the Gestapo. After the War, some XU agents were put on trial for collaboration but even then still kept quiet about their real service. Some, especially the couriers and handlers lived under an assumed identity with papers to match which sometimes meant leaving their families. XU agents in the Central Registry and printing works could ensure that papers were “genuine”, with the result that after the War some agents had trouble convincing the authorities that they really existed. Those who were caught by the Gestapo were often horribly tortured; some committed suicide to avoid interrogation and some were shot. It took courage and subterfuge to survive as a successful member of XU. There are countless tales about the heroism of XU agents, but very few have yet been told.



These brave Norwegians obtained an enormous range of intelligence, from detailed plans of strategic points such as bridges and German installations, to troop dispositions and to information about police and even Gestapo operations. They could use their official position to access plans and documents which they could secretly photograph (usually with tiny Minox cameras). Their work was

supervised by XU coordinators (effectively one for every Fylke/County) and the results forwarded by a chain of couriers to a central processing studio in Oslo (hidden in the attic of the Electricity Authority). Oslo Centre then assessed the resulting intelligence and arranged for its onward transmission to the Mi2 office in Stockholm and thence to London. For this purpose XU developed its own microdot and cypher systems but otherwise used well-tried means of clandestine communication. For example, microfilm would be hidden in hollowed out screws in the toilets of specific carriages in the Oslo-Stockholm trains.



Sylinder (her gjennomskoren) som vart skjult nede i sluket på togtoailet. Sylinderen hadde plass til to vanlege filmar. Dersom den vart opna på feil måte, vart ein sinnrik tennmekanisme utløyst, slik at botnen på sylinderen vart sprengt bort, dei uframkalla filmane slengte ut i lyset og dermed øydelagde. Teikninga viser konstruksjonen. Foto: Kaare Hemsén.

Translation: The cylinder (here cut through) which was hidden in the base of a train toilet. The cylinder had space for two ordinary films. If the cylinder was opened in the wrong way an ingenious mechanism was released so that the base of the cylinder exploded and the undeveloped films were thrown into the light

and thereby ruined. The drawing shows the construction. Photo: Kaare Hemsén

Very little intelligence could be sent direct to London and in practice only XU's northern branches did so. Unlike other intelligence organisations operating in wartime Norway, such as the British Secret Intelligence Service (SIS) and the Soviet network, XU did not depend on radios and only ever had four. Such means of communication was extremely dangerous and in any case unsuited to most of the kind of reports sent on by XU. In some cases, XU agents worked in cooperation with SIS agents with radios. This was kept to an absolute minimum for security reasons, but was sometimes very valuable, as in the case of the efforts to sink the Tirpitz. What most members of XU did not know, however, was that the connection between XU and the SIS at the top in London was so close that XU was virtually an arm of the SIS.

This was especially true of XU agents in Germany, where SIS found it difficult to run agents, especially couriers. XU had recruited students at German institutions. Unbeknown to anybody else in XU, its head in 1941 arranged for some of these to in effect work for the SIS, handled by an officer based in Sweden. We know very little about the work of most of them but one such student, Sverre Bergh, was studying at Dresden Technical University and while visiting Norway in the summer of 1941 he was instructed to go back via Gothenburg where he met a British/Norwegian SIS officer who persuaded him to take on the extremely dangerous clandestine work of liaison link with one of the most important spies for the British in Germany, Paul Rosbaud, the science editor for Springer publishing house. Rosbaud was in touch with top German scientists and obtained a lot of information about Germany's research and development of new weaponry, including an atomic bomb and rockets which became the V1 and V2, the first reports of which Bergh sent to London via XU in the autumn of 1941. SIS was at first sceptical of these reports and Bergh was sent to Peenemünde to check on their veracity. When the Allies tried to destroy the installations in 1943, Bergh was again sent to Peenemünde to assess the (in)effectiveness of the bombing.

The range of XU intelligence from Germany is illustrated by a collated series of reports from February 1944, covering the location of factories for production of synthetic petrol; further damage reports of an RAF attack on Peenemünde (still not very successful); a detailed description of the V-2 missile, its payload, range and the launch site at Peenemünde; camouflage arrangements to disguise the large chemical works at Leuna near Leipzig

which was hidden by a rush village being built on the roof; anti-aircraft defences on strategic factories near Dresden; dummy landing lights near Wien Neustadt intended for deception purposes and new equipment for German night fighters enabling them to fly at over 30,000 feet, though not for more than fifteen minutes. This was a remarkably wide range of subjects.

The intelligence provided by XU agents was very valuable to the Allies and to the Norwegian resistance movements. Detailed information about German military installations and movements was crucial to SOE operations, bombing raids and to Norwegian sabotage attacks. It was also very useful to the Allies planning the liberation of Norway. At the time of the German surrender in 1945 the Allies, and especially Milorg, knew exactly who and where the Germans were throughout the country, which smoothed the process. Such detailed knowledge of German dispositions would have been of vital significance if the Allies had had to end the occupation by force.

XU evidently played a very important role for Norway and the Allies in the Second World War and can be seen to have been one of the foundations underpinning the extremely close relationship between Britain and Norway in defence matters. Its members deserve more recognition.

Post script. I am grateful for the assistance of Tony Insall, whose book *Secret Alliances* was published recently by Biteback Publishing. My other source was *XU I hemmeleg teneste* by Einar and Svein Saeter, published by det Norske Samlaget in 1995, who have given permission to use the images from the book in the article.

Elverhøi in 2020

By John Bridgeman

Ed. When Richard Dales wrote the article in the Winter 2019 Review about Lady Barbara Arbuthnot and her salmon lodge at Elverhøj, Sunndal, he had no idea that the lodge was still British owned, and that its owner (until 4 years ago) was John Bridgeman, a member of the Anglo-Norse Society, who had written an article about it for the Anglo-Norse Review in 2004. John got in touch to set the record straight on this and other points. He then kindly contributed the new article below about the history of Elverhøj since his forebears bought it from Barbara Arbuthnot in 1892.

Although much has changed in the sixteen years since I wrote the

article 'Elverhøi after Lady Arbuthnott' for the *Review*, happily Elverhøi remains in good hands and is a fine example of Anglo-Norwegian co-operation and friendship. In this article I hope to clarify how the British ownership and usage of Elverhøi has developed in recent years with increased availability to the public for fishing and leisure.

Elverhøi was built by Barbara Arbuthnott in 1869 on land that she had bought the previous year from the farm of Løken. The story of her many happy years in the valley is well known and is recounted every year in the operetta "Lady Arbuthnott, Frua på Elverhøi", which still plays to full houses at Sunndal's annual Kultur Festival.



Photo of the cast of 'Lady Arbuthnott, Frua på Elverhøi' taken by the author in 2017.

Just as Lady Arbuthnott, who had become very well known all over Norway, had attended the coronation of King Oscar II in Trondheim in 1873 and had spoken to the King at the reception afterwards for several minutes, so had I, 145 years later, had a brief but amusing conversation with King Harald his great-grandson through the distaff side at the celebration of the

Anglo-Norse's centenary in London in 2018. My grandmother, who knew the Queen well, stopped off for lunch or tea with the King and Queen at Bygdøy whenever she passed through Oslo on her way to Elverhøi.

When in 1892 Lady Arbuthnott's creditors forced a sale of the house and all her possessions, Elverhøi was sold to my uncle Ernest Pretyman for Kr. 35,000. Under his ownership Elverhøi reverted to the purpose for which it had originally been planned, namely a fishing lodge for the use of its British owners during the summer months. In 1894, Ernest Pretyman married my father's eldest sister, Lady Beatrice Bridgeman. Elected to parliament in the following year, he held many senior Government positions and found it increasingly difficult to stay there as often as he would like. At the end of the Great War he invited my father to stay with him at Elverhøi. Between them in three weeks they caught sixty-three salmon averaging over twenty pounds. For my father, who was then thirty-six and had fought throughout the war, it was a perfect holiday. He loved the fishing, he loved the valley and he loved Elverhøi, so when his brother-in-law offered to sell Elverhøi to him, he didn't hesitate to accept.



John Bridgeman with his nephew Harry Kenyon-Slaney and his wife in 2016

Apart from during the last war, when the Germans occupied Elverhøi, destroying almost all its contents and doing much damage, my father returned to Elverhøi almost every year until 1966 when, aged almost 85, he caught his last three Driva salmon. He had married in December 1930, and my mother, Joan Bridgeman, enjoyed Elverhøi as much as he did. From 1966 I looked after it to the best of my ability until 2016 when after 39 years I felt that the time had come to pass it on to the next generation.

Since my first visit in 1947 I had stayed at Elverhøi on more

than fifty occasions and caught over a hundred salmon and grilse, including one of more than 40 lbs. With the help of my many friends in the valley, I carried out a number of improvements to the house, removing some of the old German buildings, re-roofing and double glazing it and modernising the interior, while retaining its Anglo-Norwegian character.

On 17 May 2016, I held a party to celebrate Norway's National Day, my many years of ownership of Elverhøi and my handing it over to my nephew Harry Kenyon-Slaney. The *Aura Avis* devoted its front and centre pages to the occasion, declaring along with many photographs, that "Femte generasjon tar over Elverhøy" and that it "144 år siden Lady Arbuthnott inviterte til 17.maifest på Elverhøy, gjorde John Bridgeman det same." As in Lady Arbuthnott's time we celebrated with canapés and champagne.

Harry's mother was my elder sister Mary, who with my brother Peter had first visited Elverhøi in 1938. They are seen below beside our record 61 lb



salmon and my father's friend Lord Stair, who caught it, and Ole the boatman who netted it. Harry is therefore well suited to inherit Elverhøi and, with a son in his early twenties, who is also a very keen fisherman, I hope that our family love and ownership of Elverhøi will continue for many years to come.

Since Harry has taken over Elverhøi he has, with generous grants from Kulturminnefondet, done a great deal to repair the 150 year old structure and further improve the facilities within it. The loving care and attention to

a house that remains an integral part of the history of the Sunndal valley has been much appreciated by local people who walk past it on their way to the Philipshagen. This is the beautiful and historic rhododendron garden lying just beyond the house which was created by Ethelbert Lort-Phillips in 1880 and contains perhaps the largest and oldest rhododendron in Scandinavia. I had given this garden to the local community in June 2017.

While the property with its fishing rights in the spectacular River Driva is still available for fishing parties during the season, Harry is also making it available before and after the fishing season for parties wanting to climb in the mountains and walk in this and the neighbouring valleys. He has produced a wonderful Elverhøi website: www.elverhoi.com which anyone interested in Elverhøi is encouraged to visit. I had planned to be there again this year, but alas Covid-19 has put paid to that.

How I Come to be Living in the UK/Norway

By the Editor

My mother was Norwegian and my father British and I know how they met and that after they married my mother came to live in the UK. But I have long thought it would be interesting to include in the *Review* a series of pieces about how other members met their partners, or now it is perhaps how the *parents* of members, one British, one Norwegian, met their partners. I know of some Norwegian young women who came over as *au pairs* and I have heard of British young men who went to Norway to help on a farm and with fruit-picking. But there must be dozens of other ways of telling how English girl met Norwegian boy and *vice versa*. At a guess I would suggest that many of our lady members followed their partner to his country or that the connection came about because a partner was sent to work in Norway or Britain but I could be wrong and it would be interesting to hear.

As you know if you read the Editorial, the autumn programme of events has been cancelled, and instead there is going to be an extra issue of the *Review* in October. It would be wonderful if that could be full of stories about how A met B, and how they decided in which country to live. If you would like to contribute - and I hope you will- I will need your contributions of not more than 500 words and a few photographs by **Friday 18 September**.

To reassure you there is no issue about confidentiality and data protection, as no addresses, telephone numbers or e-mail addresses will be

involved. It would help if you were willing to give your surname as well, and as that will be in the title of your contribution it could be removed before the magazine goes online, 3 months after it is issued in hard copy.

Finally I would like to stress that I am just as interested to hear from those of you now living in Norway as those living in the UK.

From Ice cream and Chocolate to Fish & Chips – the Export of Natural Ice from Norway to Britain

By Per Norseng, Norwegian Folk Museum /Norwegian Maritime Museum

On March 17th, 1822, the London confectioner William Leftwich sailed from Yarmouth to Norway on board “The Spring”, a vessel he had chartered to collect ice somewhere north of Trondheim. He returned to London with close to 300 barrels of ice on May 8th.

This is the first recorded import of ice to Britain, and apparently at any rate the very first time that ice was imported to London from abroad. According to newspaper reports, the customs clearance was complicated by lack of precedence. Eventually, however, a customs duty of 25% was levied on the cargo. Once unloaded, the ice was quickly sold to London confectioners and fish mongers with enormous profits for Leftwich.

The use of ice for cooling was obviously not a novelty in 1822 in London or elsewhere in Britain. For centuries ice houses or ice cellars had been common within aristocratic circles in town and countryside. The ice was typically used for making pastries, ice creams, other kinds of deserts and confectionaries.

From the 1780s, ice is also known to have been used to transport fresh salmon from Scotland to London. Moreover, the rediscovery in 2018 of an enormous underground ice well in London, also from the 1780s, indicates that a local ice market had emerged in the capital in the late 18th century.

The immediate background for Leftwich’s expedition to Norway was exceptionally high temperatures in the preceding winter that created an ice dearth in London and elsewhere. Other ships were also sent from British harbours to the north for ice in 1822, namely to Iceland, Greenland – and Norway. At least two of these ships collected ice from the glacier Folgefonna southeast of Bergen, one allegedly for the confectioners of London, the other to be used for transporting fresh salmon from Scotland.

In the early 1800s, the demand for ice would normally even in London be covered by collecting ice and snow during the winter and storing it for use in the summer in icehouses or underground ice cellars. From the 1820s, however, the use of ice gradually became more widespread. With a growing demand, import from overseas became necessary even with normal winter temperatures in Britain.

Until the 1850s, ice apparently was mostly imported to Britain from the east coast of USA where a substantial organised trade in natural ice had developed since the first decades of the century to cater for the needs of New York, the southern states and even the Caribbean. Occasionally ice was also being shipped from New England to Southeast Asia, and towards the middle of the century also on a more regular basis to Britain. The cold winters of the New England lakes allowed the ice to be cut in huge blocks suited for long distance trade.

In Norway too, ice had been used for cooling in manorial households at least since the late 1600s. There are, however, no signs of a domestic trade in ice before c. 1850. The idea of ice being a potential export commodity was probably triggered by incidents like the British “ice expeditions” in 1822. In the subsequent decades both Norway’s merchant fleet and its trading connections with Western and Southern Europe were growing. Some



Traditional ice saw. Norw
Maritime Museum

merchants and shipowners in Eastern Norway exported ice on an experimental basis not only to Britain, but also apparently with some success to the West of France, Portugal and the Mediterranean.

Some American export to Britain continued throughout the 19th century to the early 20th century, but from the 1850s Norway apparently took over the position as the main provider of ice to the constantly growing British market. From this time on, the ice export, particularly from the Telemark and Oslo fjord regions, became an important aspect of the economy of many

local communities, merchants and shipowners. In these parts, winters were normally cold, and produced thick ice on lakes and ponds close to the sea that lent itself easily to be cut and transported in big blocks of several hundred pounds, adopting the tools and technology developed by the ice traders in

New England.

To cover an expanding demand for ice, the Norwegian ice, merchants, who were often also shipowners and landowners, and some foreign merchants as well, from around 1860 invested in building up a



The ice slide at Stabbestad, Kragerø, c. 1900. Photo by John Lyng-Olsen. From the Lyng Olsen Collection in the Berg-Kragerø Museum

considerable infrastructure of ice dams, wooden ice slides, sometimes more than one kilometre long, and big ice stores. This allowed the exporters to harvest more ice, transport it to the harbours with less use of manpower and horsepower, and store the ice for export throughout the year, or even save it for next year if prices were low.

Ice was no longer a luxury for the few. In 1885, a Norwegian journalist observed that for fishmongers, victuallers, breweries, hotels, passenger liners etc. in most countries, steady supplies of ice had become mandatory, and a necessity also for modern households.

By the end of the 19th century, natural ice was one of Norway's most important export commodities, second only to fish and lumber. In 1899 the total export was almost 1,5 million metric tons. Thousands of people and hundreds of ships were involved in the ice export.

In the latter half of the 19th century, Norwegian ice was being shipped to Sweden, Denmark, the Baltic, Western Europe, the Mediterranean, occasionally even to Iceland, the Faroe Islands, New York, the Sudan, Congo, and Southeast Asia. However, the British Isles constituted the most important and most reliable market in a business that depended heavily on changing weather conditions, great fluctuations in production, demand and prices. In



Ice blocks, ice tools, and ice store near Kragerø c.1900 Berg-Kragerø Museum

the peak years around 1900, normally about 25% was exported to London, another 25% to other ports in Great Britain and Ireland.

The market in the metropolis of London was obviously very important for the Norwegian ice producers. One of the main importers here was Carlo Gatti. In the London Canal

Museum two of his ice wells are preserved, and a permanent exhibition testifies to his close connection with Norway.

Eventually a domestic ice market also emerged in Norwegian cities and fishing harbours. What more than anything else seems to have been the prime mover in the development of this business to an important industry, however, is the modernisation of British offshore fisheries.

Britain was not only a pioneer in railway construction, but also in using ice for transporting fresh fish by rail. From around 1860 the British offshore fishing fleet improved this preservation technique by taking ice to the fishing grounds to be able to put the catch on ice immediately. This combination of railway and ice enabled British fishermen to supply a rapidly growing market for fresh fish in London and the likewise growing industrial towns in the north with great quantities of cheap cod, haddock and other species. Fish & chips became a popular dish.

From the 1870s, the import of natural ice from Norway gradually met with competition from locally produced artificial ice in Britain. The growth in

the demand for ice was, however so great that until 1900 there was room for both to grow. Although declining towards 1914 the import of Norwegian ice was still significant until the outbreak of the Great War. It was the high costs of shipping and reduced activity in offshore fishing during the war



Ice ship loading at Solbergstrand, Vestby c. 1900. Photo Norwegian Maritime Museum

that decisively gave locally produced artificial ice and eventually modern cooling techniques the upper hand in the British market. In the meantime, from the 1850s to 1914, Norwegian ice gave an important contribution i.a. to the growing consumption of fresh fish in Britain. With slight exaggeration fish & chips are one of the most important Norwegian contributions to British culture since the Viking Age.

For more information, see the website of the international research project “The Last Ice Age”, funded by the Research Council of Norway and managed by the Norwegian Maritime Museum: <https://marmuseum.no/den-siste-istid>.

From Runners to Wheels. Winter Communications in Norway in the 19th Century

By Bjarne Rogan, University of Oslo

When the British scholar Thomas Malthus travelled through southern Norway in the summer of 1799, he reflected on the fact that grass was growing even on the main roads, due to the very low traffic. Quite a few travelogues by foreigners during the first half of the 19th century noticed the same thing. Another common observation from the tourists all through the century concerned the triangular wooden contrivances lying along the roads – notably the snow ploughs, left there from one season to the next. A third unfamiliar feature in the ‘road-scape’ were the poles at irregular intervals, marking the distances where the individual, local peasants were responsible for the upkeep and the snow clearance.

The communication and transport pattern in Norway depended on the seasonal climate to an extent that surprised the foreigners. And they met an infrastructure and a tax system that was unfamiliar. The upkeep of the roads, in summer as well as in winter, was based on taxation in kind, where the peasants were obliged to do the work with their own horses and their own ploughs. The system was abolished during the latter part of the 19th century, but in some regions as late as in the early 20th century.

Winter transport

In our day, winter, snow and ice are perceived as hindrances to transport. Until around 1900 the situation in Norway was the opposite. Since the medieval age winter roads had constituted the main transport network. Inland transport for most kinds of goods took place mainly in wintertime, as long as it depended on horse power. The reason was partly a lack of roads for (wheel-going) vehicles, partly the fact that every farm had a series of sledges for different purposes. With the exception of the surroundings of the cities of Christiania and Trondhjem, very few farms had wheeled carts or wagons at all before the mid-century.

While riding and packsaddle paths were winding and curving along, primarily in dry and elevated terrain, high up in the hillsides and along the ridges, tracks for winter roads for sledges followed flat terrain, frozen bog areas and marshes, as well as on frozen rivers, lakes and fjords. Due to the low friction of runners against snow, a sledge in wintertime could take ten times

the weight of a pack-horse. Incidentally – almost all the wars through history between Sweden and Norway took place in wintertime, due to transport conditions.

The best season for road transport was from January to March. This was the case for heavy goods, like timber to the ports, stone from the quarries, salt, dried and salted fish and herring to the inland, brandy from the inland distilleries, etc., as well as for voluminous goods (wood, hay, coal), etc., and fragile factory products like glass, bottles, etc., and not least all the farmers' products to the markets. At a rough estimate, around 90 percent of the goods were transported in these months. The railway did not take over inland transport before the in 1870es – and then only for a few main lines. The winter pattern resisted until the early years of 1900,

Conveyance

The same applies to the conveyance of persons, even if a change came about a little earlier, with much better summer roads and travel carts from mid century. Especially late winter, with longer days and more light, was for centuries the preferred season for travelling by the Norwegian population. When conditions were good, the speed of a sledge could reach one old Norwegian mile per hour, that is more than the double of a cart in summer time. Every journey that could be deferred, was put off until late winter – but before the snow became rotten. This was valid for the public employee as well as for the private merchant, for the local clergy as well as for the military officer. But not so for the tourists, among whom perhaps only one in a hundred visited Norway in wintertime.

We lack reliable registration of the traffic in general. A closer look at the diaries of the *skyss* stations (the posting system) reveals an interesting development, with marked geographical differences. Early in the 19th century summer traffic dominated only on the main roads close to Christiania, whereas the opposite was the case in the rest of the country. Around 1850, there was a balance between summer and winter traffic on our only main road, between Christiania and Trondheim, whereas the traditional winter pattern persisted in the districts. In the last decades of the century, summer traffic dominated, except in more remote parts of the country. However, these results are based on the travels of the elite. For the common peasant, winter travel was the main option all though the century.

Snow clearance – a main challenge

Horsepower and manpower were needed to keep the roads clear in winter time. The local peasants, who owned or used an assessed property, were obliged to do the work on their allotted distances – with two horses harnessed to the plough on small roads and four or more on bigger roads. Clearing the roads was a recurrent task during the winter season.



Painting by Otto Valstad (1862-1950). Probably from just before 1900

The problem was a technology (as one can see from above) that – amazingly enough – remained unchanged all through the century. The homemade ploughs of the peasants were of a simple construction – a triangle with vertical sides that pressed the snow to the sides. After the snow plough had been through 3 or 4 times, the banks were so hard and compact that the plough could not come through again before the edges were shoveled away. The plough could take neither the snowdrifts made by the wind or the accumulated snow in the roadbeds, so they had to be removed manually – by the peasants with their wooden spades and ice picks.

Despite some small amendments during the latter part of the century, these ploughs were almost impossible to steer, once the track was laid, and the track could not be made wider. With vertical sides and no steering runners, the horses could do nothing but haul the plough in the old rut, until it got stuck. The width of the plough determined the width of the road. And the

wider the plough, the more horses and men were needed. In practice, the roads were never broad enough for two vehicles to pass when they met. One of them always had to drive out, over the bank and into the deep, loose snow – with all the quarrels and even worse things that followed.

There were also other problems with this «frozen» technology. But to make a long history short: The solution was first found around 1900,



Per Krohg's (1930) colourful depiction of a large snowplough weighed down by five people and pulled by eleven horses

with a new type of plough, the Teien snowplough. The problems of both the ploughshare depth, steering and clearance width was solved by mounting the plough on a special steering sled with very narrow runners. Thus, the plough was no longer pressed sideways, but was steered by a rudder behind, more or less like a boat. Another great advance was a curved shape of the ploughshares and the wings, which lifted the snow and then carried it out to the side – more or less like a farm plough.

Much could be said about why this technological change came so late, compared to the ice cutting tools for opening shipping lanes on the fjords and the production of household ice. The field offers an interesting case for a study of economy, tradition and innovation.

However, my brief conclusion is that the sudden transition from



The Teien snowplough from around 1900

the old plough with the straight vertical sides to ploughs with curved sliding boards, narrow runners and a steering handle meant a revolutionary for road traffic. Whole places could be cleared, and the double or triple width of the roads meant that vehicles now could meet and pass each other. It was a great advantage for sledges, and it was a prerequisite for wheeled motorized vehicles which just now began to appear on the winter roads.

From this point on wheels could replace runners and sledges – even in winter time.

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First Year Report of an Anglo-Norse Scholarship-Holder at NTNU

by Hamish Hay

From the sun-saturated beaches of Goa to the freezing plains of northern Norway, my first year of studying at NTNU has been all about seeing the world from new perspectives. Both the slums of India and the shining

new developments of Trondheim have taught me something about how the world works, the direction it's going in, and how change can be possible. I'm hugely grateful to the Anglo-Norse society for making this journey possible!

I first graduated with a degree in Civil Engineering back in 2015, and after sating my appetite for working and volunteering in disparate places from Lapland to Laos, I settled down as an engineer for a few years. However, I was constantly bugged by questions that I felt weren't always answered by my technical discipline. How do so few people have access to safe water? How can the design of buildings make or break communities? Why are the voices of some people never heard in decision making, even in a democracy? This is when I was lucky to stumble across, and gain a place on, the MSc in Urban Ecological Planning at NTNU. It's essentially Urban Planning with a strong twist, and places an emphasis on informal urban environments, sustainability, and community participation. The prospect of studying without tuition fees in the beautiful environment of northern Norway, and in the low-income state of Goa in India for the first semester, was even more of an attraction!

So, in the summer of 2019 I quit my job and hopped over to Norway for an intense introduction to Urban Ecological Planning and Norway itself. Not only did I saturate myself with planning theory, but I was fortunate to quickly make some new friends, climb mountains, swim in mountain lakes, and even go water skiing! Just three weeks later, we all jumped on different trains and aeroplanes, and made our separate ways towards Panaji, the capital of the State of Goa, our home for the rest of the semester. The objective was to 'immerse' ourselves in messy, difficult environments, understand the livelihoods of the communities that live there, and look at how we could make small improvements. My teammates Vårin, Aleisha, and I, decided to work in one of the most challenging parts of the city - a large slum-like neighbourhood. After a frustrating start (which also saw me briefly hospitalised!) we started to slowly build our social networks and understand the root causes of many issues we observed. These included low political representation, exposure to natural hazards and poor community cohesion. Chaos, uncertainty and last-minute planning became part of our 'modus operandi' by the end of the semester. In our area, we proposed a few small interventions which aimed to improve the water supply and prevent flooding, with the help of some amazing civil

activists!



Hamish, second from the left, working with 'fantastic civil activists in Goa in 2019'

After a well-earned Christmas break, we were back in Norway. In addition to a more traditional planning module, we learnt how cities can better prepare for disasters and the links between migration and development. However, probably my most interesting field of study was a 'self-guided' module where I and two fellow students, Fabian and Laura, joined a community housing project in Trondheim. We attempted to apply planning theory to what the project was doing, and even made a rough-and-ready documentary about our work! Studies were, of course, accompanied by regular cross-country skiing, trips into the wilderness, and plenty of cake and coffee. Studying Norwegian online, building networks and trying to save money in one of the worlds most expensive countries is an enormous challenge. However, in Norway's largest university (with over 40,000 students), the possibilities are almost endless!

But no-one had reckoned with the devastation which Covid-19 would wreak around the world. Fortunately in Norway, an early lockdown and trusting population meant that the spread was quickly checked, and

outdoor sports and weekend trips were only mildly quashed. Nevertheless the university was closed for the rest of the semester and the academic world shifted to the mysterious online world of Microsoft Teams and 'Zoom'. With most social activities cancelled, many people here relished the chance to 'let go' of responsibilities and enjoy a period of enforced mindfulness. Others, of course, experienced separation and loneliness.

Nevertheless, as the summer approaches and the country re-opens, I'm excited for the second year of my studies here which will include a long master's thesis. I'm hugely grateful to the Anglo-Norse society for helping to make this possible. The future is uncertain and chaos is part of the day-to-day, but I've no doubt my experience at NTNU has changed me and is the foundation for whatever I do next!

Innovation in Salmon farming

Compiled by Tim Gilbert

The global need for protein is growing. Salmon is an excellent source of animal protein, with a relatively small carbon footprint.

The Norwegian authorities set a goal in 2012 to increase production fivefold by 2050. Sea lice, however, pose the greatest challenge to achieving this goal. The parasite feeds on the salmon's skin and underlying tissue, making the fish more prone to infection, trauma and stress. Treatments are time-consuming and expensive, and cost fish farmers an estimated USD 1.3 billion, (approximately GBP 1.69 billion) annually (excluding revenue losses). In 2016 alone, 53 million salmon died in their pens in Norwegian fish farms, mostly due to sea lice.

The recently established Stavanger based company Blue Lice AS switches focus from treatment to prevention of sea lice. Its system acts like a mosquito trap, attracting, capturing and containing sea lice before they reach the salmon. Their patent-pending system consists of physical units which are placed around a fish farming pen. Each unit is a trap that lures in sea lice through a combination of attractors and then contains them. The system takes advantage of the sea lice's instincts by amplifying attractors, light and odourant, making the trap more attractive than the salmon.

Preventing sea lice from entering fish farms in the first place minimises the need for treatment, which often involves stressful fish handling or potentially harmful drugs or chemicals. Use of Blue Lice's system in

combination with other measures such as cleaner fish will keep the number of sea lice below permitted limits.

Blue Lice's solution improves fish welfare as well as product quality and production rate. The system is said to be cost effective, scalable and sustainable. It is also non-invasive to fish and does not interfere with daily fish farm operations.



Illustration of how the traps around the fish pens would attract lice.

Norwegian farmed salmon accounted for about 53% of global production in 2015. With 12,000 salmon pens worldwide, the global market potential for Blue Lice's solution is estimated at USD 4.3 billion, approximately GBP 5.58 billion.

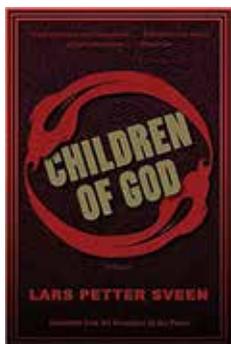
Blue Lice's product development was supported by The Norwegian Seafood Research Fund and in co-operation with Norwegian Institute for Nature Science and Bremnes Seashore. They have an ongoing full-scale pilot at a salmon farm owned by the Norwegian company Bremnes Seashore.

This article is an edited version of one first published by Innovation Norway in their online magazine the explorer.no

Translations of Recent Norwegian Non-Crime Fiction

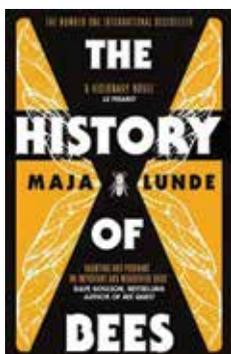
By the Editor

This list is compiled from the Norla's annual *Flickr* photostream of titles of Norwegian literature translated into all languages, from where one can follow a title to the publisher for their description of the novel. (English reviews are indicated where available).



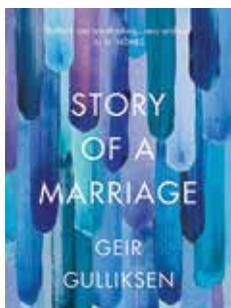
Lars Petter Sveen - *Children of God*, transl. Guy Puzy, Graywolf Press, 2018.

The novel recounts the lives of people on the margins of the New Testament: thieves, Roman soldiers, prostitutes, lepers, healers, and the occasional disciple all get a chance to speak. With a language free of judgment or moralizing, Sveen covers familiar ground in unusual ways. *Children of God* was a bestseller in Norway, where it won the Per Olov Enquist Literary Prize and gathered ecstatic reviews.



Maja Lunde, *The History of Bees*, transl. Diane Oatley, Simon & Schuster, 2018.

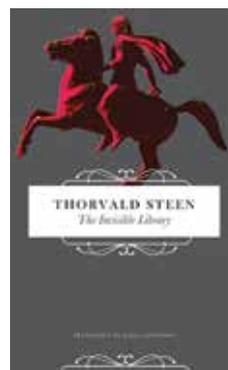
This dazzling and ambitious literary debut follows three generations of beekeepers from the past, present, and future, weaving a spellbinding story of their relationship to the bees, to their children, and to one another against the backdrop of an urgent, global crisis. The novel became a bestseller across Europe after its publication in 2015 and was the first debut to win the prestigious Bokhandlerprisen (Norwegian Booksellers' Prize).



Geir Gulliksen *Story of a Marriage*, transl. Deborah Dawkin, Hogarth Press 2018.

Geir Gulliksen is best known as Karl Ove Knausgaard's editor, but is also a writer, and in a review in the *Guardian*, (6 May 2018) Andrew Anthony writes that 'the Norwegian author brings true-life experience to this compelling novel about a man who is complicit in his wife's infidelity.' In his struggle to understand what has

happened to his family, how his wife could fall in love with another man after twenty happy years, Jon attempts to tell the story of the painful collapse of his marriage, but from her point of view.



Thorvald Steen - *The Invisible Library*, transl. James Anderson, publ. Seagull Books April 2019.

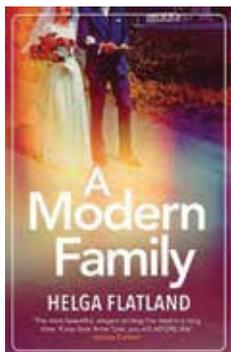
The year is 323 BC. Alexander the Great lies paralyzed by poison in his palace in Babylon. He is thirty-two years old, had Aristotle as a mentor, and is the greatest military commander the world has ever seen. At the other end of the palace, Phyllis, a cook for Alexander's army, sits locked in a room, arrested on suspicion of being the poisoner. Phyllis is allowed to live as long as she writes down everything she knows about Alexander.

She tells a brutal story of the violent daily life in the war, about the planning of the expansion into the Arabian Peninsula, about an invisible library containing marvelous manuscripts and discoveries, and about the passion between a cook and a king. According to the publisher Steen 'interweaves known and unknown, relying on facts until they run out, then building his story on what is probable... the result is an existential and inspired novel that goes to the heart of the human experience – who are we in war, in love, during the final days of life?'



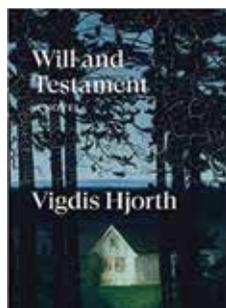
Hanne Ørstavik, *Love*, transl. by Martin Aitken, Archipelago Books 2018 (USA) and *And Other Stories* UK, 2019,

A short, suspenseful Norwegian winter's tale crafted in beautifully spare and precise prose. A harrowing, tragic story of a mother and her son. As clear and relentless as the cold air, *Love* unfolds over one winter's evening. Single mother Vibeke and her son Jon have just moved to a small, remote town in the north of Norway. Tomorrow Jon will be nine. As Vibeke gets changed after work, Jon wonders what surprises his mother has prepared for him. He leaves the house certain she will make him a cake. But preoccupied with concerns of her own, she too ventures out. Inextricably linked yet desperately at odds, mother and son make their lonely ways through the unforgiving night. (Reviewed in the *Guardian* 20.11.2019)



Helge Flatland, *A Modern Family*, transl. by Rosie Hedger, Orenda Books, 2019.

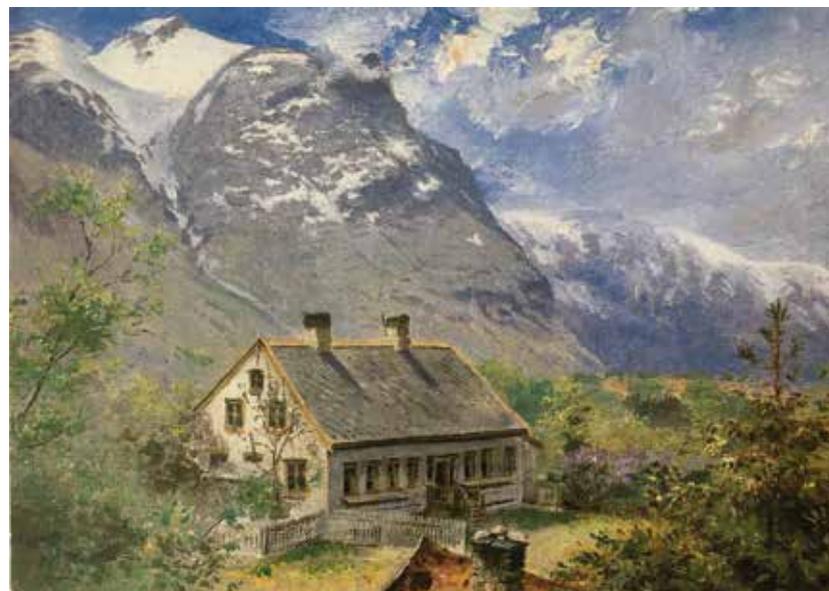
Helge Flatland has been described as the Norwegian Anne Tyler. When Liv, Ellen and Håkon, along with their partners and children arrive in Rome to celebrate their father's seventieth birthday, a quiet earthquake occurs: their parents have decided to divorce. Shocked and disbelieving, the siblings try to come to terms with their parents' decision as it explodes through the homes they have built for themselves, and forces them to reconstruct the shared narrative of their childhood and family history. A bittersweet novel of regret, relationships and rare psychological insight. (Reviewed in the *Guardian* 2nd June 2019)



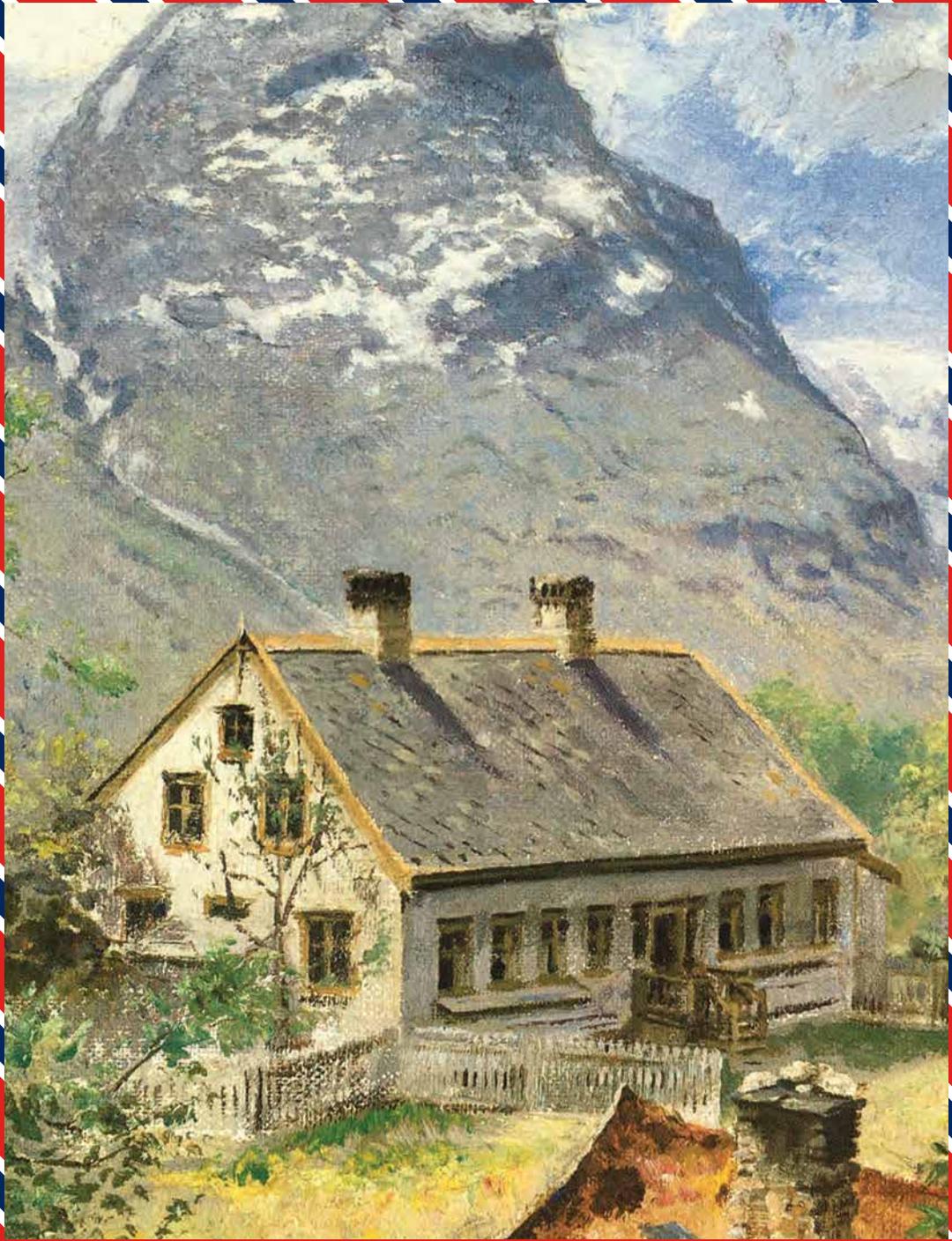
Vigdis Hjorth, *Will and Testament*, transl. by Charlotte Barslund, Verso, 2019

Four siblings. Two summer houses. One terrible secret. When a dispute over her parents' will grows bitter, Bergljot is drawn back into the orbit of the family she fled twenty years before. Her mother and father have decided to leave two island summer houses to her sisters, disinheriting the two eldest siblings from the most meaningful part of the estate. To outsiders, it is a quarrel about property and favouritism. But Bergljot, who has borne a horrible secret since childhood, understands the gesture as something very different—a final attempt to suppress the truth and a cruel insult to the grievously injured. Vigdis Hjorth's novel became a controversial literary sensation in Norway and has been translated into twenty languages. Longlisted for the National Book Award for Translated Literature. (Reviews in the *Guardian* 22.9.2019 and the *Observer* 18.9.19).

There will be further presentations of recent translations including Norwegian crime fiction in the next issue of the Review



The complete painting of Elverhøi, by George Lodge, of which the back cover is a section showing the house



Section of the oil painting of Elverhøi, by George E. Lodge in 1902, who did a great many paintings of the valley and the river Driva.