

THE NW GERMAN HEATHLAND: A THREATENED LANDSCAPE?

LOS BREZALES DEL NOROESTE DE ALEMANIA: ¿UN PAISAJE AMENAZADO?

Norbert Fischer *
Hansjörg Küster **

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Abstract

The term heath generally means wasteland. In the early modern period, extensive areas of heathland were created in north-west Germany, mainly through deforestation and subsequent grazing. This meant that the people living here had to practise a special shortage or wasteland economy. The economy of scarcity not only had economic consequences, but also shaped society and mentality. For example, use of boundaries and forms of use had to be defined. Meliorations were carried out. These and other processes are illustrated by a regional example from northwest Germany (Cuxhaven, Lower Saxony). Since late 19th century, a completely new, positively connoted meaning and perception of heathland emerged. The heath areas threatened with disappearance became the focus of a completely different perspective of use. They were seen –alongside the meliorations– as supposedly “primeval” and “original” landscapes that required special protection.

Key words

Heath, wasteland economy, landscape, nature protection; northwest Germany, Hader Heath, Cuxhaven.

Resumen

El término brezal significa generalmente tierra baldía. A principios de la edad moderna se crearon extensas áreas de brezales en el noroeste de Alemania, principalmente a través de la deforestación y el pastoreo posterior. Esto significaba que las personas que vivían allí tenían que practicar una economía particular adaptada a la escasez propia de las tierras baldías. La economía de la escasez no solo tenía consecuencias económicas, sino que también moldeó la sociedad y la mentalidad. Por ejemplo, había que definir los límites del territorio y las formas de uso, y, a la vez, se llevaron a cabo mejoras. Estos y otros procesos se ilustran con un ejemplo regional del noroeste de Alemania en Cuxhaven, Lower Saxony. Pero desde finales del siglo XIX surgió un significado y una percepción completamente nuevos de los brezales,

* University of Hamburg. Email: norbertfischer@t-online.de.

** Leibniz Universität Hannover. Email: kuester@geobotanik.uni-hannover.de.

ahora percibidos de una manera positiva. Los brezales amenazados de desaparición se convirtieron en el centro de una perspectiva de uso completamente diferente. Fueron vistos, junto con las mejoras, como paisajes supuestamente primarios y originales, y, por tanto, que requerían una protección especial.

Palabras clave

Brezal, economía de tierras baldías, paisaje; protección de la naturaleza, noroeste de Alemania, Brezal de Hadelar, Cuxhaven.

1. CHARACTERS OF A LANDSCAPE

Each landscape is formed by natural parameters, most landscapes are also influenced by human change, and all landscapes are regarded in a special way, i.e., they present an idea. It is not easy to distinguish between these parameters, but this is essential if the character of a threat to a landscape should be estimated.

Nature is not characterised by stable conditions but by processes such as erosion and sedimentation, by growth and destruction, death and evolution which can be disastrous but also “non-spectacular”, when e.g. plants lose their leaves or die.

Human change which is mostly resulting from “agri-culture” and forestry, leads to a completely different view of an ecosystem or a landscape, but this is not the “end of nature” as all mentioned natural processes are going on in a slightly or intensively modified way. Human influence can be very different and change with time. There can be intensive or extensive agriculture, there can be a dominance of grazing or of crop cultivation. But plants grow still in a natural process instead they are also influenced by human impact.

The most stable aspect of landscape can be the idea which is connected with it. There are special opinions about it: Some landscapes are regarded to be extraordinarily pretty, some are regarded to be naturally or “near to nature”, some not. In this paper, we will focus on the aspect whether the one or the other aspect is threatened most by destruction. Is it nature, utilisation, and



Fig. 1. Lüneburg Heath in NW Germany (photo: Hansjörg Küster).

idea, or a combination of these parameters? Some people regard heathlands as being an ideal of nature, although it is created by culture.

2. NATURE OF HEATHLANDS

2.1. General view

On the western rim of Europe characteristic heathlands are widely distributed (fig. 1). They are dominated by dwarf-shrubs of the Ericaceae plant family. Heather (*Calluna vulgaris*) is most frequent, but other Ericaceae are also wide-spread such as blueberry (*Vaccinium myrtillus*), cranberry (*Vaccinium vitis-idaea*), crowberry (*Empetrum nigrum*) and –on damper soils– cross-leaved heath (*Erica tetralix*). There are also characteristic grass species as matgrass (*Nardus stricta*) and hairgrass (*Deschampsia flexuosa*). These heathlands can be found as far north as in Western Norway and Sweden, in Jutland, NW Germany, the Netherlands and Belgium, on the British Isles, in the Normandy and Brittany in Western France but also as far south as in the Northern and Western part of the Iberian Peninsula (Gimingham, 1972; Haaland, 2003; Prüter, 2004) (fig. 2).

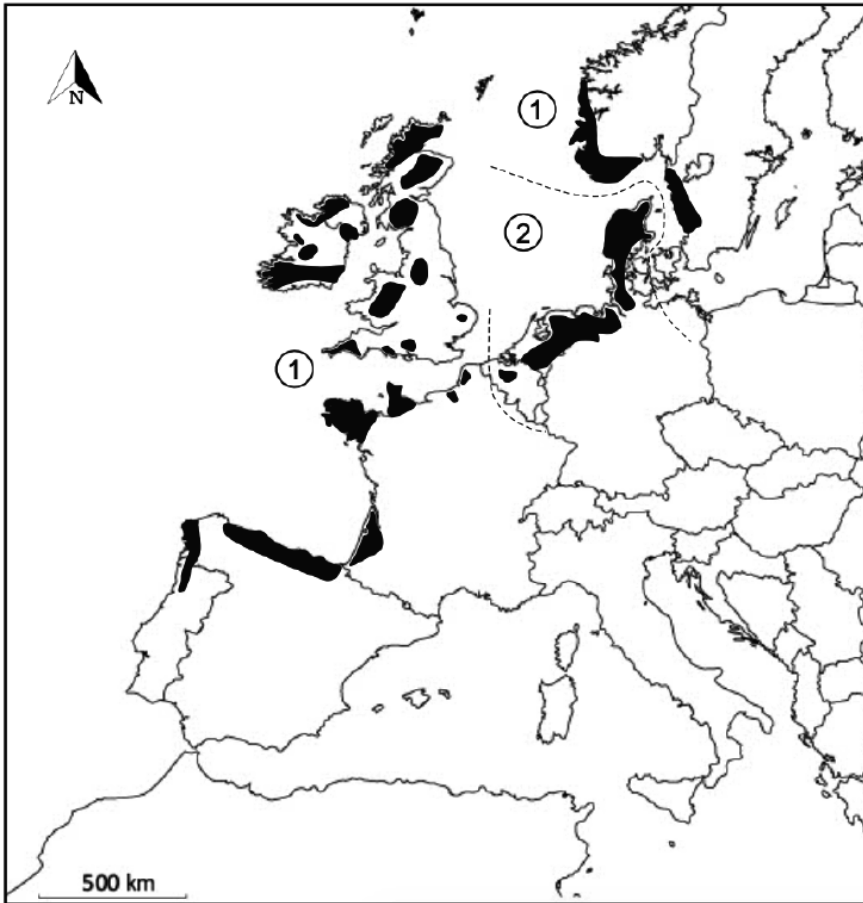


Fig. 2. Distribution of heathland in W Europe situated on bedrock (1) and sand (2).
Map: Maria Müller and Hansjörg Küster.

Pollen analyses show that before human influence started to change these landscapes especially oak (possibly *Quercus robur*) was more frequent than nowadays, but also Ericaceae were indigenous to all parts of this area. Between wooded and dwarf-shrub patches a clear boundary did not exist, both in spatial and temporary respect. Vegetation patches of light oak wood with Ericaceae growing in the understory were always frequent in these areas. Under human influence oak was diminished and Ericaceae expanded.

In each heathland patch a clear limit between wooded and open land cannot be seen. Therefore, it cannot be decided where a woodland edge existed in former times. And it is also impossible to decide which percentage of the landscape was wooded. All given or reconstructed percentages of woodland proportions are nothing else than ideas, which cannot be verified or falsified in any way. But the estimations lead to exactly looking numbers or percentages, which are by no means exact results and nothing else than ideas of scientists.

There are only slight differences in the plant composition of these western European heathlands which is partly caused by the climate, which is characterized by rain all year round and mild, but not too high temperatures. Relatively high temperatures in the North are caused by the Golf Stream running along the European west coast. Normally no ice-cover is present on the Atlantic Ocean and the adjacent North Sea so that frost is a very rare phenomenon along the Norwegian coastland. The soils are acid which is partly caused by frequent rainfall and out-washing of minerals, but also by the source rocks which are poor of minerals. Podzols are widespread which are all sandy, acid and mineral-poor. Minerals are washed down in the soils, and frequently an iron pan is developed. Ericaceae are dominant elements of the vegetation because they can occur on poor soil. They live in a symbiosis with fungi, the mycorrhiza. Fungi form wide-ranging mycelia in which water and minerals are transported to the roots of Ericaceae from a wide range of soil to compensate local shortage of minerals. In turn, assimilates, the products of photosynthesis, are transported from the roots to the fungi. Transport from fungus to plant is dominant during the growing season of plants, i.e., in spring. Then minerals such as potassium, magnesium and nitrogen are urgently demanded by plants. Later in the year, in summer and autumn, the amount of assimilates in the plants is high enough so that they can be transported to the fungi. During this season they form basidiocarps which can be collected as “mushrooms” by humans.

Blanket bogs can be frequently found in the neighbourhood of heathlands. If the top soils of the bogs are dry enough Ericaceae and “their” fungi can grow there; fungi can only exist in the presence of free oxygen above water-table which allows respiration in the mycelia.

2.2. Bedrock and sand

The heathlands of the Scandinavian Peninsula, the British Isles, France and the Iberian Peninsula are normally situated on ancient bedrock, such as granites. In fig. 2, they are indicated with a 1. But in the region in between, in Jutland, NW Germany, the Netherlands and Belgium, bedrock is nearly totally absent. There, sandy soils are prevailing, indicated by a 2. Chemically the sandy soils are related to the bedrock soils of Scandinavia, because the sandy substrata of the area are formed by Ice Age glaciers which eroded material in the North, moved it to the South and sedimented it as moraines.

There were several cold phases of the Ice Age when glaciers were formed and moved to the South. Relatively freshly deposited moraines of the last glaciation, the Weichselian glaciation, which were deposited only 20.000 to 18.000 years ago, are still rich in minerals: They can be found in Eastern Jutland, on the Danish islands, Scania, and along the Baltic coasts of Germany. They are called younger moraines and are not covered by heath-lands.

The moraines farther to the west which were deposited during earlier glaciations were more intensively influenced by the periglacial Ice Age weather conditions outside the glaciers. On nearby glaciers ranging as far as to the Baltic Sea region, very cold temperatures were predominant. There high-pressure areas developed, whereas a low-pressure area came into existence outside the glaciated area, where temperatures were slightly higher. This phenomenon generated permanently strong wind from the glaciated to the periglacial area so that fine material was blown out from the non-glaciated area and transported by wind to be sedimented elsewhere for instance as loess. The coarse sand remained in the area as it was too heavy to be transported on long distances by the wind. Sand which is poor in minerals is therefore characteristic to the so-called older moraines of the periglacial area. Furthermore, winds flattened the hills of the older moraine landscape. As a consequence, there are high hills in the younger moraines along the Baltic coast, but only smooth hills of an undulating landscape in the area of older moraines. Water seeps into the sand, so that the soils are dry instead of frequent rainfall. The area is assigned as "Geest" which means dry land in Low German dialect.

Together with ice and sand larger blocks of bedrock, so-called "erratic blocks", were transported by the glaciers and deposited in younger and older moraines. They have the same consistence as Fennoscandian (Scandinavian



Fig. 3. An alder carr (photo: Hansjörg Küster).

and Finnish) bedrock and were highly demanded as construction material since millennia.

2.3. Marshes and alder carrs

The sandy soils were eroded by the North Sea with its rising water table. The sea flooded land since the end of the Ice Age, because a huge amount of ice melted. The sand was mixed with marine sediments which are rich in different minerals. Depending on the currents of the tides sandy barrier islands and marshes were deposited. Marshes could be reclaimed to form very fertile agrarian soils which guaranteed for very high yields. Marsh farmers became very rich since the Middle Ages, whereas “Geest” farmers were considerably poorer as their fields were less fertile.

But in the sandy heathlands, there was still another typical nature element which could be utilized: alder carrs (fig. 3). Alder and a few other woody plant species are parts of another important symbiosis, the Actinorhiza. It is formed by plants and bacteria which are able to fixate nitrogen from the atmosphere to make it available to plants. Nitrogen in the form of nitrate is an essential



Fig. 4. Green alder leaves which fell to the soil in late summer and early autumn (photo: Hansjörg Küster).

mineral to plants; proteins and nucleic acids contain nitrogen. Nitrogen is also integrated to chlorophyll which causes the green colour of leaves and is essential for photosynthesis. Alder trees receive a lot of nitrates from the bacteria which in turn receive assimilates from the alder trees. Nitrates are stored by alder trees. Whereas chlorophyll of all other deciduous trees is decayed to store nitrates before leaf fall in autumn, still green leaves fall from alder trees in dry summers and are deposited on the ground (fig. 4). During the decay of the foliage nitrogen is set free which is also available for other plants of an alder carr (Pott, Pust & Hofmann 1996). The soils of alder carrs are rich in nitrogen, so that typical plants of nitrogen-rich stands grow there, such as nettle (*Urtica dioica*), hops (*Humulus lupulus*) and black elder (*Sambucus nigra*).

An alder carr can be swampy but is never flooded by running waters. It is exclusively flooded by dammed ground-water so that the carr is inundated. During inundation nitrates which are set free after the decay of alder leaves are solved by water. Running water leaving the carr contains and transports nitrates.

3. CULTURE: LAND USE

3.1. Timber and agrarian production

Since the Neolithic, 5.000 years ago, oak timber is used and the heathland is grazed, mainly by sheep. Timber was demanded for several purposes, which became manifold with time. Timber was not alone important for salt boiling in Lüneburg, but also for house and ship-building, heating and beer-brewing, to name only a few. There were extremely many breweries in Hamburg because beer was one of the very few beverages which could be kept fresh during long-distance ship journeys. Heathlands were grazed by animals, especially a special race of sheep called “Heidschnucke”. The Heidschnucke can be fed by grazing Calluna, but it is important that the dwarf shrubs do not become too old. Tough saplings are spurned by the animals. Therefore, heathlands are treated by fire to burn older saplings of heath. After burning, young saplings sprout from the heath roots which survive fires in the soil. After a few months young saplings are abundantly present which are a much tastier diet for the sheep. By using fire, the bushes and little trees are burnt, too, so that open heathlands are preserved (Haaland, 2003; Prüter, 2004).

Sheep can stay in the heathland nearly all year round, as snow and frost are not frequent in the heathlands and do not last for a longer time-span. But the animals are kept in stables for a longer time of the year to produce manure. The manure was produced in a special way. The heathland was cut, so that plants and the topsoil which is relatively rich in minerals could be brought to the stable as litter, which is called “plaggen”. Animals mixed the “plaggen” with faeces during winter so that the “plaggen” could be transported to small patches of fields in spring as manure. This form of manuring was described several times (Behre, 1980). But it is not explained by former descriptions where the nitrates derived from. The heathland top-soils alone contained too few minerals to be useful as manure. The character of the animal fodder in the stables has to be considered in a more detailed way.

To obtain fodder grass was cut on meadows and drained to produce hay. Each meadow must generally be fertilized to replace the minerals extracted during grass harvesting. In the sandy older moraine area, the stands of alder carrs could be cleared to be transformed into meadows. Nitrates for manuring grass remained still in the soils. Since the Middle Ages, but more frequently

since the 18th and 19th centuries alder carrs were drained and changed to meadow land. Draining and clearing alder woods caused a decay of organic matter and a release of nitrates; they manured grasslands which developed where alder woods were removed. Furthermore, slowly running water was led through little channels to the grassland. As it had passed alder carrs before additional nitrates were transported to the meadows and sedimented there, so that the yields of grass were improved. Hay was prepared and brought to the stables as animal fodder. As the fodder contained nitrates also animal faeces contained them.

In spring, the mixture of plaggen and nitrogen containing animal faeces was removed from the stables to manure fields so that it became possible to cultivate cereals and other crops such as buck-wheat with reasonable yields. The heathland soils became poorer in minerals which were remoted together with the plaggen, but a nucleus of fields was manured by them the year after animals used them as litter during winter times.

1853 a special school was founded at Suderburg south of Lüneburg where methods of meadow management and watering were studied and taught (Grottian, Mennerich & Meyer, 2004). In nearly all valleys in NW Germany meadows were watered up to the middle of the 20th century. After that the ridges and ditches were given up, as it became possible to use synthetic fertilizers. Tractors and other agricultural machinery were used; ditches hindered work, so that they were removed in short time and only very few remnants of watering meadows are still visible (Hoppe, 2002).

Since the middle of the 19th century watering and manuring of meadows allowed an intensification of land use on larger fields. They were designed in a new way, and a surplus of yields was generated which could be exported to growing cities in the vicinity.

Everything which was produced by land-use was regarded as being useful. Heath is an excellent bee pasture in late summer and early autumn. Therefore, beehives were brought to the heathlands in August and September. But bees could only produce honey if the spider nets, which are frequent during this season were destroyed by grazing sheep. Not only honey became a very important product of the heathlands, but also wax and candles. The city of Celle is still a centre for candle production in Germany. Certainly, sheep meet was and is used, and also the fleeces and wool were and are used. Carpets are made from wool fabrics, especially in the monasteries of the area; they are famous since centuries.

3.2. Changing land-use

The change of land-use can be demonstrated by the utilization of erratic blocks which are among the very few remnants of material culture.

As early as in the Neolithic, more than 5.000 years ago, erratic blocks were used for constructing megalithic tombs. Most spectacular Megalithic constructions made from rocks can be found in many places in Western and Northern Europe –with a very similar distribution as the dwarf shrub heathlands–. But they are not only present in the bedrock areas of heathlands but also in the sandy area, where erratic blocks had to be used. It was certainly necessary to remove the largest erratic blocks from fields before farming started, and they were collected at special sites.

During two phases of agrarian reform erratic blocks were collected for other purposes and utilized in different ways. During the Middle Ages churches were built of so-called field stones which are nothing else than erratic blocks (fig. 5). Churches became a centre of villages which were founded at stable sites. Up to the Middle Ages prehistoric sites were shifted from time to time. Now not only the sites became stable, but also the fields were permanently used and therefore more intensively cleared from erratic blocks. So, the churches not only document the buildings themselves but also the treatment of the fields. In most cases not enough stone was available so that the building of the church had to be finished by using bricks.



Fig. 5. Church constructed by field stone in Altensalzwedel, Altmark region (photo: Hansjörg Küster).



Fig. 6-7. Enclosed large field which was designed from several small field strips
Cobblestone road from 19th century (photos: Hansjörg Küster).

And in the 18th and 19th centuries larger enclosures were formed by amalgamating small field strips which could be fertilized in a better way (fig. 6). Doing so, again erratic blocks were collected, but now they were utilized to construct cobblestone pavement for roads (fig. 7). In the beginning of the 19th century only very few solid roads existed in the area, but now they were demanded to transport the surplus of agrarian production to the rapidly growing cities. Horse-drawn carriages were taken for transports to the train stations. Since the middle of the 19th century more and more railway lines were constructed to transport agrarian goods to the cities, but also to bring synthetic manure, seed grain and coal to the villages. Coal began to replace firewood so that big parts of heathland could be afforested.

4. IDEAS ABOUT HEATHLANDS AND THEIR PROTECTION

In the 17th and 18th centuries many heathlands became more and more over-exploited. Woods were pushed back, dunes were expanding (Fischer, Hoppe & Küster 2016). More and more it became clear that a reform of land-use was urgently demanded. 1776, during this period, Jean André de Luc visited the heathland. He was born in Geneva and knew Jean-Jacques Rousseau. He was appointed professor at Göttingen university. He pretended that he understood heathland within very short time. He saw the wilderness, which he thought it was virgin nature, and he noticed that peasants started to cultivate the wilderness. He compared them with the first humans, so to say, Adam and Eve in the paradise. From this point of time onwards, the NW European heathlands were regarded as “nature” instead of being the result of long-lasting utilization. In 1910, a “Naturschutzpark” was founded in the Lüneburg heath. First there was an intention to found even the first German National Park in the Lüneburg heath, but it became clear that it would not fulfil the character of a wilderness. Therefore another category for its protection had to be created which is internationally not known. But also, a nature reserve was founded to include the central part of the Lüneburg Heath.

In the late 20th century, it became clear that it was not possible just to protect “nature” as it changed its character because the utilization of the landscape was diminished. Partly land-use became prohibited by the regulations inside nature reserves. In such an area it seemed to be a “no-go” to use fire to burn old heathland and shrubs, so that a virgin heath could expand. Heathlands which were not burnt became older and tougher, which restricted sheep grazing. But in the mean-time burning is allowed in the heath so that a status-quo can be protected. It is hardly possible to define this as a natural process, but the idea of the “nature of heathland”, its openness and over-all character, could be protected. The total landscape became protected which is often regarded as cultural landscape –with sheep and the shepherd, megalithic tombs, traditional farm houses, small patches of fields, apiaries and cobblestone roads.

But there are different problems in the heathlands on bedrock (region 1 in fig. 2) and heathlands on sand (region 2 in fig. 2). Heathlands on bedrock can nearly only be used for grazing. If grazing is given up broom and other bushes spread, at the end also oak. In the heathlands on sand different kinds

of utilization became possible. Especially during land reforms since the 19th century, a lot of infertile soils were transformed by wood plantations, mainly of pine (*Pinus sylvestris*). Pine is only indigenous to dunes in the area, but pine plantations are nowadays frequently found. There are also a lot of fields where agrarian yields could be improved: Large fields were formed and manured. The sandy soils can be easily ploughed. Therefore, conditions for agriculture are not unfavourable nowadays, and large farm estates evolved. Potatoes which were introduced mainly in the 19th century are growing well in former heathlands. “Heidekartoffeln” (heathland potatoes) are nowadays famous. As potatoes can be cultivated on nearly each part of the heathlands, agrarian fields were enlarged a lot since the 19th century.

To protect heathlands, it is necessary to exclude agrarian utilization, but it is also necessary to continue traditional use: Sheep grazing and burning are essential. Management of heathlands is necessary, because otherwise natural succession would take place: Heathlands would be transformed by natural change into woodlands, which are dominated by oak or beech. Therefore, it is more complicate to preserve heathland on sand, but this is highly demanded by tourists, so that there is a real interest for preserving sandy heathlands. But this means, that the entire landscape is protected with a lot of natural processes, which are managed in a special way, so that the ideal of a “natural heathland” can be preserved as well. It must be explained to the public, how natural processes work in the heathlands and that it is necessary to manage them, in spite of the fact, that land has to be destroyed and animals killed by fire.

5. BOUNDARY CONFLICTS, FORMS OF USE, MELIORATIONS: A CASE STUDY OF HADELER HEATH

5.1. Disputed borders

Some of the aspects of heath mentioned in the first parts of the article are illustrated below using the example of a concrete space. It is about the so-called Hadeler Heide, also known as Franzenburger Heide. Territorially, it belonged to the Land of Hadeln, which, with its capital Otterndorf, was annexed in 1731 to the then Electorate and later Kingdom of Hanover (with which it became part of Prussia in the late 19th century).

The Hadelers Heide was located in the southwest of the country on the border to the Land Wursten or to the then Hamburg Amt Ritzebüttel (today Cuxhaven). Here, too, the well-known problems of wastelands played a decisive role: special, not least competing interests of use, boundary issues, afforestation and other forms of melioration.

Let us first look at the border disputes: Despite all the progress made in cartographically recording northern Germany, it was quite common until the 19th century for certain areas not to have been officially clarified as to where they belonged. This could have had several causes. For example, there could be a local consensus –not codified, based on oral tradition– about boundary lines. In other cases, there was simply no interest in using certain wastelands, so that the border question did not arise.

Nevertheless, in the course of the 17th century, for example in 1642 and 1677, there were several complaints from the village communities of Gudendorf and Wanhöden, which belonged to the Neuenwalde monastery, against Hadeln for border violations. This concerned forms of use of pasture, heath, “hude” (browsing animals in woodlands), drift and peat digging, especially by Hadelers who lived near the boundary line known as the Alte Landwehr. In 1642, it was complained that people from Hadeln had extended their rights to pasture and peat digging further and further beyond the boundary. People from Hadeln also invaded with armed hands, seized three cows and drove them to the outworks in Franzenburg.¹

In June 1677, the complaints increased. They usually referred to the fact that the people from Hadeln were using foreign heath and moor without authorisation.² The people known as “Hadelers” were those poor settlers who lived in extended houses on the moor. They managed and cultivated the moor, and the boundary was pushed further and further out over the years. Other accusations were based on the fact that the moor was dug contrary to previous traditions and even land was reclaimed and sown from the moor. The problems also included the fact that the people of Hadeln drove onto the heath, against customary law, on land belonging to the Neuenwalde office, in order to cut plaggen there and to drive their sheep there. On 18 June 1677, the Neuenwalde district clerk Johann Sprengell complained about the inhabitants of Hadeln who were extending their rights to pasture, heath,

¹ Convent Neuenwalde, 30. September 1642. NLA Standort Stade, Rep. 30, Nr. 129.

² NLA Standort Stade, Rep. 30, Nr. 129.

hay, drift and peat digging and were causing great damage to the people of Gudendorf.³

New complaints followed a year later: On 12 June 1678, the Neuenwalde official scribe Sprengell wrote a report with further complaints about the inhabitants of Hadeln who mowed heath without authorisation, herded cattle and took paths beyond the boundary line of the “Alte Landwehr” (fig. 8).⁴ But the Hadeln Heath was also used time and again by Hamburg subjects from the Ritzebüttel district, for example by Oxstedt citizens in 1746.⁵ Around 1800, the Nordholz district was still complaining about the unresolved border issue.⁶

As with so many other border disputes in the area, it was not

until the early 19th century that a preliminary clarification was reached. The Otterndorf surveyor Rönn also provided sketch maps along with an expert report (fig. 9). However, it then took several more years before a clear demarcation of the borders in the Hadeln Heath was established.⁷

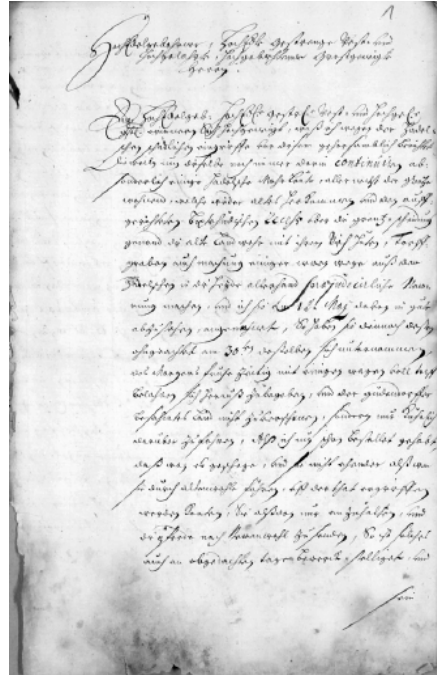


Fig. 8. Facsimile of the report by Amtsschreiber Sprengell 1678 (NLA Standort Stade Rep. 30 Nr. 176).

³ Ibid.

⁴ INLA Standort Stade, Rep. 30, Nr. 176.

⁵ NLA Standort Stade, Rep. 71 Otterndorf, Nr. 92.

⁶ Bericht des Amtes Nordholz vom 24. Jan. 1802 an Kammer, “die Regulierung der Grenze mit dem Land Hadeln betr”. NLA Standort Stade, Rep. 80, Nr. 4999.

⁷ NLA Standort Stade, Rep. 80, Nr. 5000.

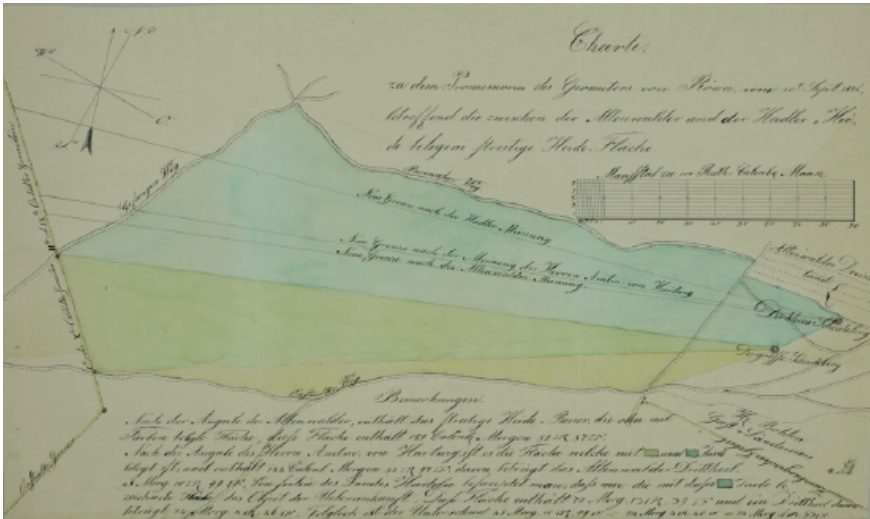


Fig. 9. Survey of the Hadeler Heath 1825 (NLA Standort Stade Rep. 80 Nr. 05000).

5.2. Afforestation and forms of use

In a handwritten description of the Otterndorf bailiff Georg Wilhelm Marwedel, who was responsible for Hadeln, dating from around 1800, it was emphasised that Hadeln had problems with the timber industry. Marsh and moorland were not suitable for this, nor were the sandy areas.⁸ Therefore, as early as in the 18th century, a reforestation with first had been started in the Hadeler Heath begun in 1734 and was extended in 1770-1774.⁹ This was initially done with conifer seeds. However, after an initially good seeding success, most of the trees died and the remaining trees did not show any significant growth. In a memorandum, forester Hack from Süderleda wrote on 3 January 1795 about the further development of this Fuhrenkamp¹⁰ that in the years 1770, 1773 and 1774, with the permission of the chamber, it was

⁸ Marwedel, Georg Wilhelm: *Beschreibung des Politischen und Kameral Zustandes des Amts Otterndorf Landes Hadeln*. [Otterndorf] 1800. NLA Standort Stade, Rep. 74 Verden, Nr. 929.

⁹ *Ibid.*, 171.

¹⁰ "Fuhre" or "Föhre" means pine in German.

reseeded with pine seeds. Here, too, there was initially good growth, but over 20 years later the development was not so favourable. The question was now—especially since wood thieves had spread—whether the existing wood should be sold and new farms established there.¹¹

The use of “flax reddening” is also informative for the history of the heath economy. This involves fermentation processes of harvested flax stalks in a water-filled trough. These roasting or rotting processes served to make it easier to get at those parts of the flax stalk that were suitable as fibres for flax yarn or linen production. The unpleasant odour produced by this process meant that it was carried out away from the settlements. Another, more well-known form of use was shepherding. Conflicts over shepherding on Hadelers Heath had been going on for a long time. A report from the Nordholz office to the chamber in Hanover on 24 January 1802 dealt with these rights. From consultations it emerged that the right to shepherding had existed since time immemorial. The grazing rights extended over the entire heath, and before the present sheepfold there had already been another. At one time there were up to 600 sheep on Hadelers Heath, now there are less than half that number.¹² A report from early 19th century (1823) shows that Hadelers Heath was the only remaining wasteland in Hadeln Land.¹³

5.3. Melioration attempts in the late 19th and early 20th century

Hermann Bohlen, domain tenant of the Franzenburg estate, started an initiative for melioration on a small part of his leased land in the Hadelers Heath in the mid-1860s. On 18 March 1865, the government informed him that he was planning an afforestation attempt with conifers. As he did not know whether the afforestation or forestry use contradicted the lease, he asked for permission. In doing so, he referred to the expected decided improvement of the estate.¹⁴ Obviously the matter was not pursued further

¹¹ Gutachten von Förster Hack, Süderleda, vom 3. Januar 1795. NLA Standort Stade, Rep. 74 Otterndorf, Nr. 362.

¹² Bericht des Amtes Nordholz an Kammer vom 24. Januar 1802, die Regulierung der Grenze mit dem Land Hadeln betr. NLA Standort Stade, Rep. 80, Nr. 4999.

¹³ Bericht des Amtes Otterndorf vom 2. August 1823. Ibid.

¹⁴ Gesuch des Pächters Hermann Bohlen, Vorwerk Franzenburg, an Ministerium vom 18. März 1865. NLA Standort Stade, Rep. 80, Nr. 10962.

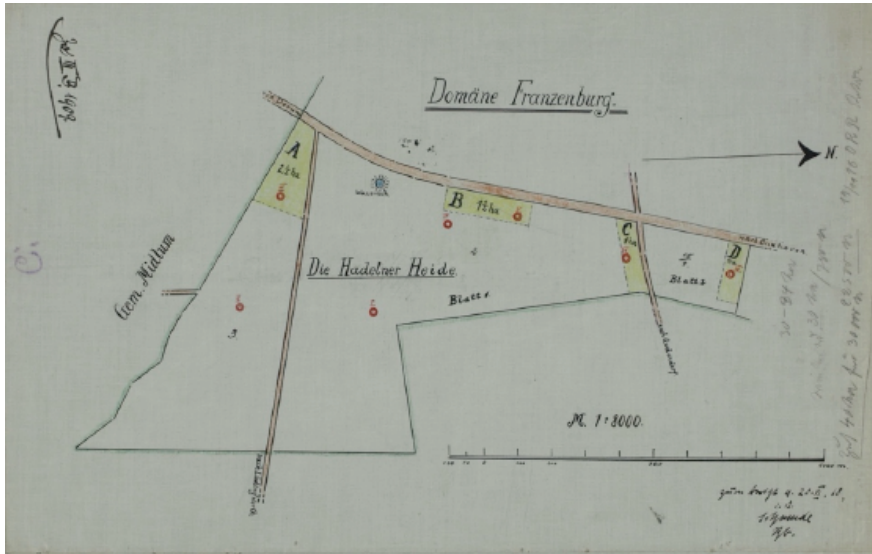


Fig. 10. Melioration project Hadeler Heath around First World War (NLA Standort Stade Rep. 180 D Nr. 642).

by tenant Bohlen for the time being because of the difficult circumstances, at least nothing can be found about it in the files. There were, however, further negotiations about the termination of the entitlements or compensation on the fiscal Hadeler Heath, but without a final solution.¹⁵

As not until 1894 that the matter came to an end: On 16 August 1894, a concrete plan was agreed in Franzenburg at Shade's inn in order to put an end to the traditional rights of use in the Hadeler Heath mowing, sand ditching, gravel ditching and the removal of plaggen for fertiliser preparation were listed. But then it took another 20 years before melioration actually got underway (fig. 10). In the middle of the year 1918, areas of a combined size of six hectares were selected: "Die Kultivierung ist wie folgt gedacht: Nach Entfernung der Heide wird der Boden flach umgebrochen und darauf die Oberfläche mit einer Telleregge gründlich zerkleinert, unebene Flächen werden planiert".¹⁶ The melioration trials were successful and in early 1920

¹⁵ NLA Standort Stade, Rep. 80, Nr. 10963.

¹⁶ Regierungsbaumeister vom 20. Juni 1918 betr. Kultivierung der Hadler Heide Domäne Franzenburg, in: NLA Standort Stade, Rep. 180 D, Nr. 642.

the trial areas were expanded to 10 hectares. Two more plots were added later. When the Prussian Chief Government Councillor Ratzlaff visited the Franzenburg domain on 29 June 1920, he was able to ascertain during his visit: “die neukultivierten Flächen zeigten einen überaus zufriedenstellenden Zustand im Hinblick darauf, daß es sich um erstmalige Bestellung handelt”.¹⁷

6. CONCLUSIONS

At present, the area of the former Hadelers Heath is used for sand mining and other commercial purposes. There is hardly anything left to be seen of the heathland. Nevertheless, one village in Cuxhaven today bears the name that has now become historical. Nearby is the Cuxhaven coastal heath, which met a different fate. It, too, was reduced in size by the melioration programmes that began, but it was also partly used as a military training area. The latter led to the preservation of large areas. It was preserved as a nature reserve, which is based on the aforementioned aesthetic understanding of nature (Fischer, Küster, Hoppe 2013/14).

All these developments document how much the term “heath” has undergone a change of meaning over the past centuries, which has been reflected in encyclopaedias, lexicons and dictionaries. Initially, the term “heath” had a fundamentally negative connotation in the sense of wasteland, and in some parts of Europe it was considered synonymous with “steppe”. Johann Heinrich Zedler’s *Universal-Lexicon* of 1735 does not even know the term “heath” in the sense of a natural designation as an independent lemma.¹⁸ In Krünitz’s encyclopaedia, however, which was begun at the end of the 18th century, it already appears in detail.¹⁹ Grimm’s dictionary, begun in 1854, brings together a large number of references, not least literary ones, from German-language writings on the term heath. It is striking that the poetic and landscape-aesthetic meaning of heath plays an important role

¹⁷ Reisebericht des Oberregierungsrates Ratzlaff vom 1. Juli 1920, in: NLA Standort Stade, Rep. 97 Stade, Nr. 271.

¹⁸ J. H. Zedler, *Erstes vollständiges Universal Lexicon aller Wissenschaften und Künste...* Zwölfter Band, H-He, Halle und Leipzig, 1735 (Fotomechanischer Nachdruck Graz, 1961), col. 1118-1129.

¹⁹ Krünitz, *Oeconomische Encyclopaedie oder Allgemeines System der Land-, Haus- und Staats-Wirthschaft*, Band 22, 711-712.

here.²⁰ Over time, the possibilities for soil improvement, i.e. melioration, were described increasingly positively. This can be seen at the latest at the beginning of the 20th century in Meyer's *Großes Konversationslexikon*, which also emphasises the aesthetic appeal of heathland landscapes.²¹

Thus, since late 19th century, a completely new, positively connoted meaning and perception of heathland emerged. The heath areas threatened with disappearance became the focus of a completely different perspective of use. They were seen –alongside the meliorations– as supposedly “primeval” and “original” landscapes that required special protection. Theodor Storm was one of the German writers who felt particularly attracted to the heath. It was no coincidence that the writer had himself photographed in 1886 with a broom heather in his buttonhole. He saw the threat to heathland landscapes from agricultural melioration measures. Storm's descriptions of heath landscapes in Schleswig-Holstein prompted many readers to explore these areas (Hülsmann 2014).

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²⁰ *Deutsches Wörterbuch* von Jacob und Wilhelm Grimm. 16 Bde. in 32 Teilbänden. Leipzig, 1854-1961. Quellenverzeichnis, Leipzig 1971, Band 10, col. 795-799.

²¹ Meyer, *Großes Konversations-Lexikon*, Bd. 9, 1905, 58-59, Bd. 14, 1906, 906.

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